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ABSTRACT

The purpose of this book is to describe and analyze the major vocational training institutions of Latin America, from the educational planner's point of view, in order to map the terrain in this field and propose some guidelines useful to planners. The first two chapters discuss some conceptual problems related to the field of non-formal education and present the major characteristics of the most important vocational training institutions in Latin America. Chapter 3 analyzes their organizational aspects, activities, and relationship to formal systems of education. Chapter 4 presents a discussion of the various patterns of financing vocational training and formal schooling in Latin America, as well as describes the factors to be considered in the implementation of vocational education policies for adults and young people in Latin America. Finally, a few conclusions are presented concerning the possibilities and limitations of the implementation of non-formal education programs generally. (CSS)

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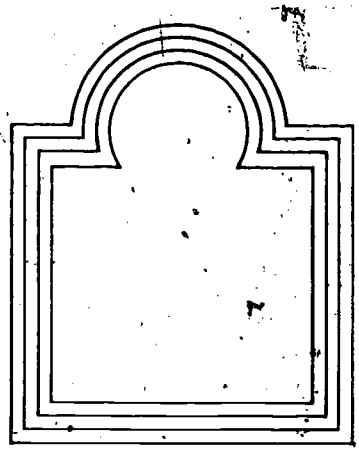

MONOGRAPHS ON COMPARATIVE AND AREA STUDIES IN ADULT EDUCATION

Jindra Kulich, General Editor

CENTRE FOR CONTINUING EDUCATION
THE UNIVERSITY OF BRITISH COLUMBIA
in co-operation with
THE INTERNATIONAL COUNCIL FOR ADULT EDUCATION

Vocational Training In Latin America: A Comparative Perspective

by Oscar Corvalan V.

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FOREWORD

Interest in the comparative study of adult education has been growing in many parts of the world since the first conference on comparative adult education held at Exeter, U.S.A. in 1966. This interest was given further impetus by meetings held at Pugwash, Canada in 1970, Nordborg, Denmark in 1972, and Nairobi, Kenya in 1975.

A number of international organizations, among these Unesco, the International Bureau of Education, the International Congress of University Adult Education, the European Bureau of Adult Education, O.E.C.D., the European Centre for Leisure and Education, the Council of Europe, and the International Council for Adult Education have contributed their share.

A growing number of universities in all five continents established courses in comparative adult education. Many other universities encourage students to deal with comparative study or with the study of adult education abroad in major papers and theses. The literature in this area has increased considerably since the early 1960's both in support and as a result of this university activity. A number of valuable bibliographies were published, cataloguing the growing wealth of materials available in a number of languages.

Most of the literature available on adult education in various countries can still be found primarily in articles scattered throughout adult education and social science journals,

while most of the truly comparative studies remain unpublished master's theses or doctoral dissertations. There is no publisher enticing researchers to submit manuscripts of monographs dealing with comparative adult education and case studies of adult education in various countries, even though the need for such a publishing venture was stressed at a number of international meetings.

It is with the intent to provide such service to the discipline and the field of adult education that the Centre for Continuing Education at The University of British Columbia, in cooperation with the International Council for Adult Education, decided to publish a series of Monographs on Comparative and Area Studies in Adult Education. The Vocational Training in Latin America: A Comparative Perspective by Oscar E. Corvalan V. is the first volume in this new series.

Jindra Kulich
General Editor

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I would like to affirm my debt to the many experts of the Interamerican Research and Documentation Centre on Vocational Training (CINTERFOR) of Montevideo, Uruguay, on whose writings I have drawn heavily in preparing this study.

I also wish to thank those who have given their time to the tedious business of reading through and commenting on my successive drafts, particularly to Dr. Joseph P. Farrell, chairman of the Department of Educational Planning of the Ontario Institute for Studies in Education, University of Toronto.

I must also express my gratitude to Drs. Knute and Paz Buttedahl for their continuous encouragement to work in the field of adult education in Latin America.

Finally, I should point out that even if I did not calculate the many hours of leisure foregone during the time I worked on this study, my wife Renate and my son Juan-Pablo did, but never complained.

O.E.C.V.

Toronto, January 1977

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GLOSSARY

BID	Interamerican Development Bank
CEPAL	Economic Commission for Latin America
CINTERFOR	Interamerican Research and Documentation Center on Vocational Training
OECD	Organization for Economic Co-operation and Development
OAS	Organization of American States
OIT	ILO
BIT	ILO
ILO	International Labour Office
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
UNESCO	United Nations Educational, Scientific and Cultural Organization
IIEP	International Institute for Educational Planning

INTRODUCTION

The purpose of this study is to describe and analyze the major vocational training institutions of Latin America, from the educational planner's point of view, in order to map the terrain in this field and propose some guidelines useful to planners.

The first two chapters discuss some conceptual problems related to the field of non-formal education and present the major characteristics of the most important vocational training institutions in Latin America. Chapter 3 analyzes their organizational aspects, activities, and relationship to formal systems of education.

Chapter 4 presents a discussion of the various patterns of financing vocational training and formal schooling in Latin America, as well as describes the factors to be considered in the implementation of vocational education policies for adults and young people in Latin America.

Finally, a few conclusions are presented on the possibilities and limitations of the implementation of non-formal education programs.

The experience of Latin American countries in the field of non-formal training programs allows for a critical assessment of this particular form of education. This is especially important now when, along with criticism of formal systems of education, it has become fashionable to propose non-formal educational strategies to meet the needs of education and training in the

underdeveloped countries of the world. This view has been insistently repeated in recent years,[1] not only by some isolated educational planners, but also by such important funding institutions as the Agency for International Development (AID) and the World Bank. Thus, non-formal education and training programs are being implemented in various poor countries of the world which depend on aid for expanding their educational systems.

A major difficulty with these proposals is that the transfer of educational models to a new cultural setting usually entails severe problems of adaptation. The above-mentioned strategies also have shaky financial footings. Examining the literature available concerning non-formal education, one repeatedly encounters the assumption that these programs are more effective and less costly than comparable programs within formal schools. But non-formal programs are rarely comparable with educational programs which normally take place within the formal schools.

There are several issues to be discussed concerning the implementation of a system to produce skilled labour and technicians. These include the role of formal and non-formal systems; the role of industry; the objectives of general and technical schools; priorities in training youth or adults; responsibility for financing; criteria for the allocation of funds (rate of return, manpower approach, or other). One issue chosen for detail discussion in this study is that of financing manpower training programs. The last chapter of this book presents a discussion of financing patterns of formal systems of education in Latin America, as well as those of vocational training institutions.

This study is confined to the analysis of the major statistical and organizational features of Latin American national training institutions for which data is available from 1970 to 1974. Data concerning costs, enrolment, financing, staff, hours of training, and participants by program, economic branch, sector, and setting has been collected by an ILO agency in Latin America. The list of institutions and countries covered by the study is given in Chapter 2. The study also analyzes vocational and

technical training programs for youth and adults being offered by the national training institutions of most Latin American countries; a description of each is also included in Chapter 2.

Chapter 1 argues that the kind of educational institutions examined, supply part of the host of educational programs termed "non-formal education" because this kind of educational activity corresponds to the general characteristics of non-formal education.

1

PROBLEMS IN PLANNING NON-FORMAL EDUCATION

Definitional Problems

This chapter is an examination of a number of policy analysis problems applied to non-formal education. Key terms used in the study are examined first, and, subsequently, the growing awareness among planners that educational futures depend on more than formal schooling alone; the major strategies proposed to generate sufficient skilled labour and technicians to support the goals of economic growth formulated in Latin America; and the major assumptions about the role of the state in sponsoring vocational training institutions employing those strategies.

Planning is defined in this study as the process of preparing a set of decisions for future action, directed at achieving goals by preferable means. Policy analysis should be understood as an approach and methodology for the design and identification of preferable alternatives with respect to complex policy issues.[1] The whole study deals extensively with vocational training. Thus, instead of giving a preliminary definition of this term, a more detailed description is given in Chapter 2. Meanwhile, vocational training will be considered a subsystem of the non-formal education system.

After examining various definitions of "non-formal" education, I have attempted to use Philip Coombs', but spelling out the limitations of such an approach. In Coombs' terminology,[2] formal education refers to the traditional, articulated school system that begins at the primary level and culminates in colleges,

universities, and other tertiary level institutions. Formal education is typically under the jurisdiction of national ministries of education, which are responsible for the maintenance of established curricula, teacher corps, examinations and certificates, and the administration of major financial support. Non-formal education, in marked contrast, is a residual category. If loosely defined, it conceivably could include all socialization and skills learning processes taking place outside formal education. For the purposes of scholarly study, and for educational planning as well, the parameters of non-formal education must be greatly reduced. Furthermore, the distinctions between formal and non-formal education are set forth only because education today is organized in a segmented fashion and it is necessary to acknowledge this distinction for analytical and operational purposes. Nonetheless, non-formal and formal modes of education often interact. I dislike the current organization of educational systems and advocate instead the development of a lifelong learning system which integrates different modes of education and makes them available to the largest percentage of the population.

Each nation has a large number of non-formal educational activities. These have developed from special historical and cultural circumstances as well as from contemporary social and economic organizations. Certain common characteristics account for special problems in planning non-formal education. In comparing formal and non-formal educational systems, one can find similarities and dissimilarities between them, even if both educational systems can be viewed as being "formal" when both teachers and students are involved in learning situations promising some kind of reward (i.e., certificates, diplomas, job access, promotions, etc.) beyond learning for its own sake. There are major differences between formal and non-formal education systems in terms of educational content, methods, participants, rewards, funding, and probably costs. These differences are discussed briefly below.

In terms of content, non-school programs usually are

task- or skill-oriented as dictated by the functional needs of participants and organized in discrete content units; formal school programs are generally academic, abstract, and highly verbal, crystallized in articulated content units.

Non-formal education methods are relatively flexible and related to direct application of skills and established performance standards; they are content-centred. Conversely, in the formal system of education, knowledge often is standardized and transmitted from teacher to pupil in the classroom. Formal systems are teacher-centred and relatively inflexible and non-innovative. As for participants, learners in non-formal education are from all age groups and primarily concerned with immediate job mobility or opportunity. There is also great variety in teachers' qualifications and motivation. In the formal system, probably with the sole exception of tertiary education, students are usually age defined and teachers are formally certified with their status correlated to location in the school hierarchy.

There are also important differences in the financing of formal and non-formal systems of education. While the first is normally funded directly through public budgets, arrangements made for funding the latter are varied and often outside the control of departments of finance. This problem is dealt with in the following section in this chapter.

Finally, because this study is concerned with the cost of non-formal education, it should be pointed out that great variations in cost per program and per pupil/hour can expected. In fact, economies of scale are not always possible in this sector, and because of the variety of programs and participants it is reasonable to expect higher costs per hour of teaching in the non-formal than in the standardized formal system, where economies of size may often be possible due to the homogeneity of the clientele.

It is also possible to argue that the major functions of formal and non-formal educational systems are different on another level. The major functions of the formal school system are those

of socialization and selection, including the cognitive and affective components. The development of job-specific skills usually occurs only in secondary or tertiary institutions within the system. Although it is possible to find some elements related to the socialization and selection functions in the non-formal educational sector, the basic reason why these educational programs are set up is to develop specific skills dictated by the functional needs of the participants.

The education and training activities dealt with in this study can be viewed as a subset of the broad category which is non-formal education. They have some properties similar to formal educational activities, but do not take place within the control and sponsorship of the formal system of education. Throughout this study I deal with structured, systematic, non-school educational and training activities of relatively short duration sponsored by agencies seeking specific skill development in the participants. Further, in order to better delimit the scope of this study, I also should point out that research has been restricted to vocational training programs that operate at the national level, under the sponsorship or supervision of governmental ministries or agencies, and are intended for a target population comprised of economically active segment of the population of the country (whether emp[illegible] underemployed, or unemployed).

En[illegible]rging [illegible]pe and Utility of Educational Planning

During the past decade the field of educational planning has experienced rapid expansion. This growth, especially in underdeveloped countries, has often been a concomitant of the quantitative explosion in national educational systems. As school enrolments have grown in response to enormous social demand, educational planning has frequently been called upon to bring the explosion under greater control by introducing more rational goal-setting and allocation practices in human resource development.

The examination of the development of planning in Latin America shows that the effort has often been unrealistic and, for

the most part, a failure. The linear expansion of schools has, in fact, only been halted by the excessive increase of educational expenses, which in typical cases have grown at least twice as rapidly as national economies and public budgets.[3] Planning, of course, can do little to influence the demand for schooling or the runaway expansion of enrolment in the past decade or so. Nor has it been notably effective in attempts to introduce substantial educational change in formal educational systems in underdeveloped or developed countries.[4]

A number of proposed changes in the aims, methods, and scope of educational planning might be noted; the change of special interest to this enquiry is the effort to enlarge the scope of planning to include non-formal education.

For example, a key element of Coombs's non-technical planning approach involves a change in the relationship and allocation of resources between the formal educational system and other educational activities. The scope of planning, he asserts, must be expanded to include all educational programs as a unified whole. He also has pointed at the rational planning and development of non-formal education has been particularly neglected to date.[5] It has been largely ignored (except by the International Labour Organization and people in the private sector) by professional educators, researchers, and educational planners alike.

To some extent, research on formal education itself has revealed the significance of out-of-school learning processes. For example, efficient performance in specific occupations requires different proportions not only of formal education, but also of specialized training and experience. The contribution to this long-term educational process by schools and universities, on the one hand, and by programs of out-of-school education, on the other, needs to be more closely examined.[6] Frederick H. Harbison has proposed that:

> In examining nonformal education, planners should pose central questions like these: (1) Can nonformal education activities

satisfy educational needs that cannot be met by the formal system? (2) Are nonformal education projects, because of their flexibility in comparison with the rigidities of formal education, more susceptible to innovation? (3) Do successful innovations in nonformal education induce desirable innovations in the formal educational system? (4) To what extent, if any, do nonformal education activities have better ratios of cost-effectiveness than formal education?[7]

Problems of Planning Vocational Education

During the last two or three decades, almost all the literature concerning the role of education in supplying adequate manpower for the labour market in Latin America has emphasized the need to develop vocational and technical schools. Given a certain number of assumptions concerning the role the state should play in education, the class structure of the region and the property of vocational training institutions, vocational schools were seen as the only way to generate sufficient skilled labour.

Today we are faced with a radically different view. During the last ten years an important shift in thinking has occurred concerning the best way to train skilled labour. In fact, since Philip Foster strongly criticized the vocational school strategy in "The Vocational School Fallacy in Development Planning," many other articles, books, and research reports have shown the weaknesses of the school system in providing job-oriented training. Also, Foster has denied the validity of the belief that vocational training provided inside the formal system of education in underdeveloped countries could ever become an effective method of accelerating economic development. Furthermore, he points out that general education and vocational training are never substitutes for each other, the former being a necessary foundation for the latter, and the latter being generally more effectively provided outside rather than inside schools.[8]

The issue of adopting a vocational school strategy or a more flexible non-school strategy which is closely tied to present

and near-future manpower requirements for skilled labour is a central one in educational planning.[9] With respect to Latin American educational conditions, it can be argued that a non-school strategy seems to be more appropriate to provide job-specific skills training.

In fact, there are two major problems associated with the adoption of a vocational school strategy for the provision of specific training. To begin with, there is the inherent inaccuracy of the current "state of the art" in manpower forecasting. If it were possible to forecast accurately the demand for specific skills in advance, then there would be solid economic reasons for training people on a full-time basis to acquire these skills. Unfortunately, as Mark Blaug has pointed out,[10] "even the most enthusiastic manpower forecasters agree that medium- and particularly long-term manpower forecasts cannot be expected to do more than to distinguish the demand for people with general academic education as distinct from the demand for those with scientific and technical preparation." It is only possible to foresee the requirements for manpower with skills in an economy one or two years hence. Since most formal educational institutions in Latin America at the secondary or tertiary levels invariably commit themselves to a two- to five-year cycle, the inability of manpower forecasters to make accurate predictions of skill requirements seems to be fatal to a vocational school strategy. For these reasons, vocational training on a full-time basis provided in vocational schools must necessarily impart general skills, at which point it ceases to be "vocational" in the sense in which that term is usually understood.

Secondly, vocational schools are expensive in comparison with general secondary schools. Their teachers must be both well trained and have industrial experience, and their equipment has to be relevant to the specific kind of training required by the labour market of the country or region they serve. In Latin America, the ratio of the cost per pupil in general secondary and vocational schools goes from one to one (in Ecuador) to one to four (in Bolivia).[11] Also, because of the requirements of the

formal school system, vocational school teachers have to be formally certified and usually they have the tendency to become full-time teachers; they have scarce, if any, resources available for research, and lack industrial experience. Furthermore, it is impossible for vocational schools to simulate the actual rhythm and discipline of factory work in the classroom. It is no surprise that vocational schools trainees are often not welcomed by employers.

Because of these problems in vocational schools their cost effectiveness ratio is usually high and their trainees not well adapted to the labour market.

Thus, faced with the rigidities of the formal system of education in Latin America and the underdevelopment of manpower forecasting techniques, a more effective, and eventually more efficient, vocational training organization seems to be needed to provide job-oriented training. However, a certain degree of general education is a necessary foundation for non-school vocational training. The latter can be provided on a part-time or full-time basis, on the job or at specialized training centres.

Major Assumptions Concerning the Role of the State in the Provision of Vocational Education in Latin America

As noted above, one of the major functions of formal systems of education is the socialization of children, adolescents, and adults participating in the different schools as learners. Concomitantly with the development of certain socially desirable habits and other patterns of personal behaviour, this process also implies a certain ideological indoctrination. Thus, the socialization function inherent in formal schooling normally requires state intervention, because the state is usually considered to be the most neutral social organization that can perform this task. Political parties, churches, trade unions, employers' associations, or other social organizations may be willing to permit private firms to supply cars, clothing, or chemicals, but they would surely adopt a different attitude to the

supply of education by social organizations with clearly defined ideological principles. It can be assumed that various organized social groups could more easily accept the sponsorship of vocational training by agencies other than the state because of its apparently small ideological component.

Although none of the most important inherent characteristics of non-formal education requires the state to run it, in Latin America there is no tradition (with the sole exception of Brazil, where employers' organizations are involved in training) of employers' or workers' organizations having the necessary homogeneity of interest, organization, or will to run part of the educational activities of the country, as happens, for example, in West Germany or Great Britain. Thus, both employers and workers normally have had the tendency to entrust the state with the implementation of strategies for the training of skilled labour. This point is dealt with later in this chapter.

The history of the development of vocational education and training in Latin America proves that employers' organizations there have been rather reluctant to organize and finance a large vocational system under their control and responsibility. With the sole exception of Brazil, vocational schools and training institutions today are under the control and responsibility of semi-autonomous governmental bodies, the ministries of education or of labour.

Industrial and commercial employers are expected to support (individually or collectively) part-time education and non-formal training for their own workers and their prospective labour force. Various systems financed by a tax levy on wages have expanded vigorously in recent years, and direct practical incentives have been created for employers who take the initiative to train their workers under contract with the official training institutions. Whenever the public sector is involved in the production of goods and services, it has the same training needs as comparable activities in the private sector. To the extent that employers are exclusively interested in providing training immediately applicable to their production system, the long-term requirements

and broader requirements for skilled labour are ignored. In order to encourage employers to incorporate these requirements the state would have to provide tax incentives, subsidies, and technical assistance. Thus a large part of the costs would fall back on the public sector.

From the economic standpoint, efficiency dictates that the financial responsibility for training different categories of employees should be borne by the employers and not by the state or workers. Economics shows that an increase in industrial and commercial productivity implies an increase in profits. This means that any saving made in the means of production will imply a higher profit, or, eventually, a lower loss. If we assume that training does produce such a higher productivity by developing the desired skills or competency, the conclusion must be that employers should be interested in providing training to their workers whenever the cost of training is less than the anticipated increase in the global profits of the business. Thus, if we consider training as a factor of production, financial responsibility for this factor, as for any other factor, should lie with the producer.

As pointed out above, Brazil is the only Latin American country in which employers' organizations are financing and running vocational training programs on their own, though under governmental regulations. However, the participation of Brazilian industrialists as a class in the process of education took place only under pressure. Following the Great Depression, the government lacked the resources required to expand national education, and the popular forces lacked the necessary prestige to force the government to meet their needs on a priority basis. Thus the government sought the collaboration of employers in providing instruction for these popular forces, many of them their own employees. The Constitution passed in 1937 stated: "It is the duty of industry and economic syndicates in the sphere of their specialities to set up apprenticeship schools for their associates."[12] Projects to put these objectives into practice came to nothing. The Sao Paulo industrialists recognized the

that the foundation and maintenance of schools for that purpose should be a task of the government."[13]

At that time, two major reasons led to the industrialists to react reluctantly to a more direct and active participation in the promotion of vocational education; one was economic, the other sociological. The first was based on the fact that industry had not yet become highly competitive, and thus a highly skilled labour force was not thought to be a necessity. From the sociological standpoint, as F.H. Cardoso has demonstrated, the discontinuous conditions under which Brazilian industrial development took place did not "produce forms of behaviour and consciousness that might define in a stable manner the condition of proletarian."[14] Historically, society as a whole denied the workers any possibility of defining autonomous interests. The institutional power system and the basic mechanisms of social control sanctioned the domination of the state by the great landowners and exporters, whose interests as a class did not seem to conflict with those of the industrial class, which had incorporated the same traditional values.

The class consciousness of the Brazilian proletariat (as in other Latin American countries) was denied by "controlled trade unionism," by state paternalism which deadened and atrophied any consciousness of the role of the working class in the development of the country. Under these circumstances, the employers did not have any particular political interest in promoting direct educational activity to indoctrinate the proletariat.

As industrialization developed in Brazil, the need for skilled manpower was more urgently felt, and finally, after a great deal of discussion and disagreement between the government and the employers' organization as to the form of the new service to be created for training manpower - the 25th International Labour Conference held in Geneva in 1939 also helped to formulate policy - it was decided to entrust the National Service of Industrial Apprenticeship (SENAI) to the National Confederation of Industry, and the National Service for Commercial Apprenticeship

(SENAC) to the National Confederation of Commerce. However, connections were set up with the Ministry of Education and the Ministry of Labour.

Since that time major changes have occurred not only in the structure of foreign investment in Latin America, which has dramatically shifted from the primary to the secondary and modern tertiary sectors of the economy, but also in employers' mentality and interests. Employers today are interested in influencing not only the teaching of technical skills to their employees, but also the cultural and political content of the education they receive.[15] Nonetheless, vocational schools and training institutions in most Latin American countries are the property of the state.

2

VOCATIONAL TRAINING INSTITUTIONS IN LATIN AMERICA

General Background

Latin America has reached a population of 280 million, with a growth rate of 2.9% as contrasted to 1.2% in North America and 0.8% in Europe. Of the total population, an estimated 105 million belong to the rural sector. Of these, 15 million represent the Indian populations concentrated in the rural areas of Mexico, Guatemala, Bolivia, Ecuador, and Peru.

One of the main features of the Latin American population is its heterogeneity; class distinctions are very obvious across the socio-economic sectors within countries. Per capita income varies, by country, from about U.S. $100 to around U.S. $1,000, and this disparity increases when one compares the rural with the urban sector and the industrialized and non-industrialized sectors of the economy within countries.

Within this context, education has undergone the most rapid expansion of all the sectors; with the encouragement of UNESCO recommendations it has reached an investment of around 4% of the GNP and approximately 20% of national budgets (see Table 9 for details).

However, this educational expansion often has been in response to immediate pressures and has not always been compatible with the requirements of development plans. In several countries it becomes very obvious that there are tendencies to increase secondary and higher education, rather than primary education, and tendencies to expand all sorts of training opportunities leading

to "prestige professions," rather than the development of the kind of education required to meet the real needs of the national development planning.

Non-School Vocational Training in Latin America

The term "vocational education" is used to include all forms of preparation or further education for the exercise of a specific calling, ranging from the acquisition of theoretical knowledge to practical training and the transmission of the appropriate professional ethics or code of conduct.[1] This definition disregards the traditional distinction, or even contrast, between education and training. The distinction between these two terms in the past was largely based on an artificial separation made by the two major international agencies most directly concerned with it, UNESCO and the ILO. But one has only to read the ILO recommendations on vocational training (27 June 1962) or those of UNESCO on technical and vocational education to realize that, in spite of their efforts not to trespass on each other's territory, they are in fact both talking about the same thing.

The definition of "vocational training" given in Recommendation No. 117 adopted by the International Labour Conference in June 1962 includes any type of instruction given to actual or potential workers, both youth and adults, which prepares them for exercising a trade or other occupation.

With respect to this particular study, I prefer to use the term "non-school training" in order to localize where training is provided and, at the same time, make it more comprehensive. Thus, for the purpose of this study, "non-school training" is regarded as a varied set of educational experiences planned and consciously delivered by someone or a particular agency; heterogeneous with respect to participants, sponsorship, methods, duration, intensity, and costs; and vocational or job-oriented.

Chronological Development of Manpower Training Institutions in Latin America

The creation in January 1942 of the Brazilian SENAI (National Service for Industrial Training or, Servicio Nacional de Aprendizagem Industrial, in Portuguese) marked the beginning of the development of modern training institutes in Latin America. During the last thirty years there has been a vast development of structured non-school and adult education programs for the youth and adults of that region.

Despite the fact that vocational schools had already existed in the region for industrial, commercial, or agricultural training, it was only after 1942 that the development of structured non-school programs began to achieve more or less national coverage (see Table 1). Most of the existing vocational schools were, and continue to be, dependent on ministries of education, or at least related to them. The newly created training institutes are mostly dependent on ministries of labour or economics; this is an important feature that influences the objectives, availability, teaching methods, and other important characteristics of these programs. As far as is known, the limitations imposed by a consitutional clause which confers the responsibility of conducting educational programs to particular public bodies do not exist in Latin American countries. Hence there is no need to make an artificial separation between education and training as has been necessary to delimit federal and provincial government activities in Canada. It has been shown by Roger Gregoire and other writers that this separation rests on weak theoretical grounds.[2]

In 1942 there was also created in Uruguay the Universidad del Trabajo (Polytechnical Institute) as an autonomous institution, out of the former Direccion General de Ensenanza Industrial.[3] However, the UTU is not a typical vocational training institution of the region. It is rather an institution which is part of the formal system of education, but performs some tasks in the field of out-of-school educational and vocational training for adults.

Table 1: Chronological Development of Vocational Training Institutions

Country	1945	1950	1955	1960	1965	1970	1973
Argentina*	CNAOP 1944			CONET 15.11.59			
Bolivia							FOMO 18.2.72
Brazil	SENAI 22.1.42	SENAC 10.1.42			PIPMO 18.12.63	DNMO 1967	
Colombia				SENA 21.7.57			
Costa Rica					INA 21.5.65		
Cuba							
Chile*				SERCOTEC 2.7.60		INACAP 21.10.65	
Ecuador						SECAP 31.10.66	
El Salvador					DNA 7.11.61		
Guatemala*					CENDAP 1961		INTECAP 19.5.72
Honduras							INFOP 28.12.72
Jamaica						NIVIP 19.9.69	
Mexico					ARMO 21.6.65		
Nicaragua						INA 8.4.67	
Panama*					IFARHU 11.1.65		MINTRAB 1973
Paraguay							SNPP 2.7.71
Peru					SENATI 19.12.61		
Trinidad & Tobago						JNC 1966	NTB 1972
Uruguay	UTU 9.9.42						
Venezuela				INCE 28.8.59			
Cumulative	3	4	4	6	13	18	21

Source: CINTERFOR, Prospective Study on Vocational Training in Latin America and the Caribbean Countries, Vol. I (Montevideo, CINTERFOR, 1975) p. 10.

* The second institution has succeeded the one previously created.

Subsequently, CNOP, the predecessor of CONET (Commission Nacional de Aprendizaie), was created in Argentina in 1944. Brazil, in 1946, created another specialized institution, SENAC (National Service for Commercial Apprenticeship), which trains adults and adolescents for commercial positions.

Other vocational training institutions appeared later in the region. During the 1950s, four of them came into being; by 1960, there were three more, by 1965, seven more, and by the end of 1973 there were twenty-one. This fast development of training institutions in Latin America would probably not have been possible without the active role played by the International Labour Organization.[4] In fact, during the last thirty years, a national training institution has been created in almost every Latin American country.

The structure, organization, and lines of dependence to a government department vary widely among the different national training institutions. In some Central American and Caribbean countries, vocational training programs are implemented without any national institution acting as a focus; such is the case in El Salvador and Haiti. In the Dominican Republic, many vocational training institutes have been created recently under a General Supervisory Service. In Cuba, various ministries and agencies carry out important action in the vocational training field; the most important aspects are co-ordinated by an Advisory Technical Committee set up towards the end of 1972. Finally, in Jamaica and Trinidad and Tobago vocational training is dependent on several different ministries and training tasks are performed by both public and private agencies. The major feature of all these programs is that they are skill- and job-oriented and usually are carried on outside the traditional school system.

By 1960, six Latin American countries had introduced vocational training schemes. Their representatives met at the Seventh Regional ILO Conference in Buenos Aires and recommended the establishment of a co-operative mechanism to encourage collective work. Thus CINTERFOR (Interamerican Research and Documentation Centre on Vocational Training) came into being to

promote the creation of new institutions and expand their activities by closer contact among their principals and specialists.[5]

Vocational Training Institutions Included in This Study

The Latin American vocational training institutions referred to in this study are shown in Table 2.

Table 2: Institutions Surveyed by CINTERFOR[1]

Country	Full name	Acronym
Argentina	National Council for Technical Education	CONET
Bolivia	National Manpower Training Service	FOMO
Brazil	National Industrial Training Service	SENAI
	National Commercial Training Service	SENAC
	Intensive Program for Manpower Training	PIPMO[2]
	National Manpower Department (Ministry of Labour)	DNMO[2]
Colombia	National Training Service	SENA
Costa Rica	National Training Institute	INA
Chile	National Vocational Training Institute	INACAP
Ecuador	Ecuadorian Vocational Training Service	SECAP
El Salvador	National Training Department	DNA[2]
Guatemala	Technical Institute for Training and Productivity	INTECAP
Honduras	National Vocational Training Institute	INFOP
Mexico	National Service for Accelerated Manpower Training	ARMO
Nicaragua	National Training Institute	INA
Panama	Vocational Training Department	IFARHU[2]
Paraguay	National Service for Occupational Promotion	SNPP
Peru	National Service for Training in Industry and Tourism	SENATI
Uruguay	Polytechnic Schools	UTU
Venezuela	National Institute for Educational Co-operation	INCE

1 CINTERFOR has been carrying a yearly survey on these institutions since 1970. See Cuadro Comparativo y Fichas Descriptivas de las Instituciones de Formacion Profesional de America Latina.

2 No information available.

ARGENTINA

National Council for Technical Education (CONET)

CONET was legally established in 1959. Amendments were made to the act in 1971. CONET was set up as an autonomous national institution controlled by the Ministry of Education and Culture. The Council is directed by a Chairman, who is required to be a specialist in technical education. The controlling Board consists of eight voting members representing the following areas: three members from the technical teaching field; one member representing the Ministry of Labour; one member representing the teachers taking part in CONET activities; two members representing employers' organizations; and one representing the recognized main workers' organization or legitimate union of workers in the technical education field.

The objectives of CONET are to meet both qualitatively and quantitatively the demand for human resources at middle-technician and skilled worker level. The Council also strives to provide vocational-technical education as well as all-round education. CONET wishes to insure better co-ordination with other systems of middle-level education and seeks to promote technical-vocational training which is more closely adjusted to the need for technological progress. The Council strives to do this by matching training with employment opportunities. CONET provides short courses in order to meet urgent skill requirements and therefore provides greater opportunities for adult training.

CONET is involved in commercial and service sectors, and in the fields of agriculture, mining, industry, home economics, and in the artisan trades. One per cent of all wages, salaries, and other incomes paid to persons employed in industry provides some of the funding for CONET. Supplementary financing and resources are provided from the national budget. Support is also derived from national education funds and the National Minimum Wage Council, the Entertainments Tax, and any other contributions available.

As of 1975 the CONET's facilities were 343 centres equipped with workshops, classrooms, and offices and 89 centres equipped with mobile units. The staff included 15,220 full-time instructors, 13,540 part-time instructors, 10,750 technical personnel, 10,050 auxiliary and support personnel, and 2,050 executive personnel.

CONET courses are given in permanent centres, such as the National Technical Schools and Vocational Centres for Adolescents, in mobile units, and in Accelerated Vocational Training Centres. There is a basic orientation and training course given as well as training in artisan trades, initial training and upgrading, advanced training, and teacher training.

The programs of the Council are developed in accordance with manpower requirements as estimated by the National Development Council and by CONET's research service. This service collaborates with provincial governments, national bodies, state and private projects, and trade unions. The programs also work through CONET's own Technical Co-operation and Assistance Service.

BOLIVIA

National Manpower Training Service (FOMO)

FOMO was founded in February 1972 as a self-directing service responsible ultimately to the Ministry of Labour and Trade Union Affairs. The Service is led by an executive director and under the overall control of a Department of Planning and Co-ordination. The executive director is appointed by the Minister of Labour. The Department of Planning and Co-ordination oversees the operational services, which are in turn set up by the Regional Centres at La Paz, Santa Cruz, and Tarija. The Department is also responsible for support services.

FOMO seeks to improve skill levels of the working force in the industrial, service and agricultural sectors. It also aims to help in all economic and social development programs; to co-operate in any projects which raise the general productivity of

the country; to assist in any policies which are directed towards achieving an economic maintenance between expanding and declining regions; to advance the position of unskilled workers; to provide training and participation in vocational rehabilitation of the mentally, physically, and socially handicapped.

The Service expects to diversify its activity in order to meet the need for skilled manpower. Eventually the aim is to create a national vocational training system outside the educational system teaching occupational skills to those workers who are unable to benefit from the standard education system. FOMO is active in agricultural, industrial, and service sectors.

The Service is funded from voluntary contributions, employers' and workers' organizations, foreign aid, and the national budget. As of 1975 the facilities of FOMO were reported as follows: three regional offices with three centres equipped with workshops, classrooms, and offices and one mobile unit, equipped with mobile workshops. On staff were 20 full-time instructors, 13 part-time instructors, 22 support personnel, 9 technical personnel, and 9 executive personnel.

FOMO offers courses and programs by agreement with industrial firms, national services or enterprises, and agricultural organizations. These include adult training, basic training, and extended training courses. They are offered at the following centres: La Paz, Tarija, Santa Cruz, and Cochabamba. Mobile units offer courses at Santa Cruz, Tarija, and La Paz.

There is long-term planning and intermediary term planning for the National Manpower Training Service to comply with national development plans. There is also short-term planning to provide a structure for immediate activity and courses therefore are based on a six-month period.

BRAZIL

National Service for Industrial Training (SENAI)

SENAI was declared a corporation in 1946, although legally

it had been established in 1942. SENAI has both national and regional services, being directed by the National and Regional councils of the National Confederation of Industry. The National Council and the Regional Council are responsible for the programming and policy making of the Service. SENAI is administered by the National and Regional departments, thus decentralizing its administration, which means that the regions themselves are fairly autonomous. The Chairman of the National Confederation of Industry sits on the National Council. The National Council includes representatives of the Regional Council, of the Ministries of Education and Culture and of Labour and Social Insurance, and of the transport, fisheries, and communications branches of the government. SENAI draws up its own courses and programs at its vocational training centres.

The objectives of SENAI are to establish vocational training and apprenticeship programs for youth and adults. Courses in specialist trades are at the middle-technician level. SENAI also conducts research and industrial manpower surveys. The Service strives to co-ordinate the apprenticeship programs it offers for youth with the regular educational system of the country. SENAI also encourages and implements broader general educational content and a flexible system of assistance schemes and increased scientific and technical content in the SENAI syllabi, which are developed at the centres and at project sites. SENAI tries to establish a parallel system of education within the country for workers. The Service also evaluates vocational training programs, and through national co-ordination of the regional activities strives to integrate the system as a whole. SENAI is active in the communications and fisheries sectors as well as those of industry and transportation.

The Service is funded by a levy of 1% on the wages of industrial workers. An additional 20% of this levy is taken from those projects or enterprises with more than 500 workers. Resources are also found in donations, fines for infringements, and other miscellaneous sources. As of 1975, the facilities were as follows: 22 regional offices; 155 centres equipped with

workshops, classrooms, and offices; and 11 mobile units. The staff included 2,603 full-time instructors, 673 part-time instructors, 2,667 auxiliary and support personnel, 890 executive personnel, and 798 technical personnel.

SENAI provides industrial apprenticeship for youth between the ages of fourteen and eighteen, extended training courses, and courses for unemployed adults. It also provides extended training for supervisory personnel and middle-level technician courses for the textile, ceramics, paper and pulp, plastics, graphic arts, engineering, and metallurgical industries. SENAI provides extended training for its own management, technical, and teaching staff, and also conducts training for the blind. It works closely with the Ministry of Education and Culture and the Ministry of Labour and Social Insurance when programming and developing its training schemes.

These programs are based on periodical surveys of the vocational training needs and the manpower resources of the country as a whole as well as of each region. It is the regional departments which prepare schemes and projects co-ordinated with the regional, economical, and social development plans.

BRAZIL

National Service for Commercial Training (SENAC)

This Service was founded in 1946 as a corporate body. SENAC represents and is directed by the National Confederation of Trade. To carry out the administration it has a National Board, which is responsible for activities throughout Brazil and which has a National Council, National Administrative Service, and Fiscal Service. The National Council is made up of the Chairman of the National Confederation of Trade, a Chairman ex-officio, a Vice-Chairman, and representatives of the Ministry of Education and Culture and the Ministry of Labour and Social Insurance. The Council also has representatives of each National Federation, the Chairman of the National Federation of Commercial Employees, and

the Director-General of the National Administrative Service.

The National Administrative Service programs SENAC's overall activity. This program must be approved by the National Council. The Council then sees that technical assistance is provided to the regional boards. The administration also includes the regional boards, which are responsible for administration within their territories. Each territory has a Regional Council and a Regional Administrative Service. This Administrative Service is the body which implements the programs issued by the Regional Board.

The objectives of SENAC are to provide apprenticeship and adult training in commercial and other services. It aims for a training based on contemporary methods, and operates in the fields of wholesale and retail trade, storage and communication services, tourism and hotel trades, hospitals, and health and personal services.

A levy of 1% on wages of employees in commerce and related activities is the financial resource of this Service. SENAC also receives gifts and legacies and independent contributions. As of 1975 the facilities of SENAC were twenty-two regional centres with classrooms, workshops, and offices. The staff included 2,807 part-time instructors, 315 technical personnel, and 56 executive personnel.

The SENAC courses fall into the categories of basic and extended training courses with upgrading and updating techniques. They include apprenticeship programs, seminars, and study meetings. The programming of SENAC activities is designed in compliance with commercial requirements and those resources available to the Service.

COLOMBIA

National Training Service (SENA)

Established in 1957, the National Training Service was reorganized in December 1968. Although it comes under the Ministry of Labour and Social Security, it is administratively

independent, being a public corporation with its own funds.

Structurally, the National Training Service is headed by a National Administrative Board and a Director-General. Members of the Board include representatives of the government, employers' and workers' organizations, and the church. The Minister of Labour sits as Chairman of the Board. Representing the President of the Republic is the Director-General, who is responsible for management, co-ordination, supervision, and control. Program implementation is based on socio-economic regions, that is, on regional units, which are headed by regional boards with regional administrators who act as representatives of the National Administrative Board and the Director-General. The Comptroller-General of the Republic supervises the accounts. A control and evaluation committee is appointed for each centre or program.

The Service aims to advance workers socially through comprehensive training. This requires collaboration with employers to establish and maintain a national apprenticeship system. It also aims to give vocational training to workers in all economic sectors and at all levels. It strives to help employers organize vocational training and upgrading programs for their administrative workers and other workers at all occupational levels. The Service, through all economic levels, develops apprenticeship programs for skilled trades. It expands adult vocational training in the SENA centres and in enterprises with the hope of raising national productivity and promoting social progress at all technical and administrative employment levels. The Service produces advisory programs for small- and medium-sized enterprises and training programs for middle- and high-level technicians. It is active at the industrial, commercial, agricultural and stock-raising levels, that is, in all occupational fields.

Funds are provided for the National Training Service by a levy of .5% of the monthly payroll of national, regional, and local authorities. A levy of 2% is made on the payroll of private employers, public establishments, state-controlled industrial and

commercial enterprises, and semi-public companies with not less than $50,000 or with more than ten permanent employees. Funds are also derived from the proceeds of penalties imposed by the Ministry of Labour, gifts, and other contributions.

As of 1975, the facilities of SENA were as follows: 17 regional offices; 64 centres equipped with workshops, classrooms, and offices; 61 centres equipped with mobile units. The staff included 2,416 full-time instructors, 917 part-time instructors, 1,199 auxiliary and support personnel, 433 technical personnel, and 406 executive personnel.

The type of help given by SENA includes sandwich courses and adult training either in SENA centres or within the enterprises, which includes related training and upgrading courses. A special Program of Social Advancement for Workers (Programa de Promocion Popular) has been instituted which is characterized by the use of mobile training units. Help is also given in the support programs for business and industry in middle- and higher-technician courses and in supervisory and management training.

SENA programming is based on the skilled manpower needs and national development plans, which are themselves drawn up on a five-year basis and periodically adjusted. Regional plans are worked out annually for the corresponding stages of the national five-year plan.

COSTA RICA

National Training Institute (I[illegible])

The National Training Institute was established in May 1965 as a semi-autonomous corporate body with its own funds. The Institute is controlled by a Board of Directors, a Manager, and an Assistant Manager. The Board is composed of seven members appointed by the Government Council, an Executive President, and six other persons experienced in adult training. The main function of the Executive President is to see that decisions adopted by the Board are carried out and to co-ordinate the

Institute's activities with those of other state agencies. The Manager and Assistant Manager are in charge of organization, planning, co-ordination, and control. Projects are carried out by a Technical Operations Division, according to the guidelines laid out by both management and the Board. Finances are controlled by the Comptroller-General of the Republic. Excluding the Board of Directors, the Manager, Assistant Manager, and the auditor, officials of the Institute are all civil servants.

The objective of the National Training Institute is to establish a national system of apprenticeship, further education, and social advancement with vocational as well as accelerated training for adults. This training is to be implemented either within training centres or within the enterprises themselves. The Institute seeks to establish a national system of vocational training to meet the increasing demand for workers at all levels of skill. It also aims to improve the productivity of workers in all levels of employment and to provide enterprises with the training facilities and help they may require to meet specific personnel needs.

The Institute is involved at the industrial, commercial, agricultural, animal husbandry, mining, and other service levels. Funds are derived from levies on private sources and state bodies. As of 1975 INA had two regional offices. Their staff included 147 full-time instructors, 40 part-time instructors, 223 auxiliary and support personnel, 203 technical personnel, and 23 executive personnel.

Apprenticeship training courses are organized on a sandwich basis and are given jointly by an INA centre and within the project concerned. Vocational training courses for adults and youth are given, as is training for workers already employed, which includes related training, further training, and training for social advancement. Courses are given with the use of INA and project facilities, mobile units, and/or other approved arrangements. There are extended education courses for women. In December 1971 the Apprenticeship Act established a national system of apprenticeship which provides youth with systematic and

comprehensive vocational training either in training centres or within specific projects in order to acquire those skills needed for the occupations in which they are, or may already be, employed.

Priorities for Institute activities are based on demographic data, employment structure and trends, national economic and social development policies, and a technical assessment of the employment situation. Also taken into account are present as well as future manpower needs. The Institute's programs are also based on national and individual interests as well as the availability of existing and projected facilities.

CHILE

National Vocational Training Institute (INACAP)

Adult training activities were founded in Chile in September 1950 with the establishment of the Technical Co-operation Service (Servicio de Cooperacion Tecnica). In October 1966, these activities were made official with the establishment of the National Vocational Training Institute, a corporate body connected to the National Development Corporation (CORFO).

Physically the organization of INACAP is centralized, but operationally it is more diversified. The Institute is directed by a Board, headed by a President, and has representatives from CORFO, the ministries of Labour and Education, the Council of University Rectors, and employers' and workers' associations. This is a decision- and policy-making Board which passes on directives to an Executive Committee. An Executive Director then implements the policies. There are eleven regional areas responsible for carrying out various policies.

The objective of INACAP is to provide up-to-date vocational training for workers and others in accordance with those priorities given in the government's economic and social development plans. Like other state institutions, INACAP must

adapt its policies to the National Plan, aiming to meet the national objectives of government programs. This aim includes all processes, institutions, and agencies connected with the Institute and its policies.

Although INACAP's activity must vary according to changing economic requirements of the country, its aim is mainly to train manpower for agriculture, forestry, animal husbandry, mining, fisheries, manufacturing industries, building, electricity, commerce, transport, communications, and government and private services. Courses offered range from semi-skilled to middle-technician.

Funds for INACAP are provided from the annual budget of CORFO, which originates in the Ministry of Economy, along with special grants from the state and from public and private bodies. The facilities of the Institute included, as of 1975, 13 regional offices, 29 centres equipped with workshops, classrooms, and offices, plus 11 centres equipped with mobile units, and 22 mobile units equipped with mobile workshops. Staff in 1975 included 481 full-time instructors, 142 part-time instructors, 547 auxiliary and support personnel, and 372 executive and technical personnel.

The INACAP courses are given in training centres, workshops, mobile units, and in special projects. There are training, extended training, and specialist courses for adults. Apprenticeship is available for youth leaving the basic general education schools, and middle-level courses are gi secondary school leavers. It is possible for adult workers to the opportunity to enter universities through this higher labour education. The extended training in employment programmes gives workers an opportunity to improve both their employment and educational status. Occupational training is given to physically handicapped persons under the Vocational Rehabilitation Program. Industries are assisted by the On-the-Job Training Program to establish their own training courses in accordance with their needs, utilizing their own personnel and facilities. For each industry, qualified INACAP specialists will train organizers and instructors for courses.

A Programming Committee carries out plans on the basis of ascertained requirements in each area and in each region, in accordance with policies already established at the central level.

ECUADOR

Ecuadorian Vocational Training Service (SECAP)

In October 1966, SECAP was established as a corporate body. Subsequently, in 1971, it became a public body under the Ministry of Social Insurance and Labour, having its own funds. The Service is headed by a National Council on which the ministers of Education and Production are represented. The main power, however, resides with the Minister of Social Insurance and Labour and is put into practice through the Council. The Minister of Social Insurance and Labour may be represented through the Under-Secretary, who in turn may act as Chairman of the National Council. If the ministers of Education and Production are absent, they may be represented by civil servants with suitable qualifications and experience in technical education. The other members of the Council may be drawn from the technical directors of the National Planning Board. Technical directors of CENDES or their representatives are also on the Council and two members and their deputies from employers' and workers' organizations are also present. The following departments are supervised by the National Executive Board: the administrative service, the planning and programming service, operations departments and regional boards, and the management branch.

Like similar organizations in other countries, SECAP strives to provide vocational training for workers employed in all economic areas. This training includes accelerated courses for persons over the age of fourteen; it also includes the training of adults for employment opportunities and the training of managers for small enterprises. The Service also strives to train middle-level supervisory personnel. The overall objective has been to organize a vocational training system on a national basis which covers all the country's economic activities.

As of 1975 the facilities of SECAP were three regional offices and four centres equipped with workshops, classrooms, and offices. The staff included 46 full-time instructors, 70 auxiliary and administrative personnel, 44 technical personnel, and 4 executive personnel.

Financial resources are drawn from the national budget. The allocation is four million sucres. From the Ministry of Industry and Commerce comes a levy of .2 per thousand on the value of industrial machinery imported. A further levy of .5 per thousand on the wages and salary payrolls of enterprises in the industrial, commercial, or services sectors provides more funding. Resources are also acquired through a small charge placed on those trainees who have no connection with any enterprise, but seek only vocational training.

The types of courses offered by SECAP fall in the range of specialist training for those already in the labour force. They also cover assistance for training within enterprises, and training of supervisory and management personnel. Courses are also designed to train instructors who will themselves give vocational training.

Manpower surveys provide the basis for the vocational training programs given by SECAP. These programs are designed for one-year, two-year, and five-year periods, and utilize statistics from various sources as well as from the country's General Development Plan. Activities are programmed for each year and within every branch of the economy for each geographical region. The trend of SECAP so far has been to organize a vocational training system covering all the country's economic activities.

GUATEMALA

Technical Institute for Vocational Training and Productivity (INTECAP)

INTECAP was established under the administrative control of the Minister of Labour and Social Welfare and was designed to

be an independent; non-profit-making corporate body with its own funds. The Minister of Labour and Social Welfare is the Chairman of the governing body of INTECAP. The Vice-Chairman is the Minister of Economic Affairs. The Secretary-General is from the National Council for Economic Planning. The Board also includes five members who represent the Co-Ordinating Committee for Industrial, Agricultural, Commercial, and Financial Associations (CACIF), the Chamber of Commerce, the Chamber of Industry, the General Association of Agriculturalists, the Association of Bankers, and two members representing the legally constituted workers' organizations. In this governing body the Secretary-General acts as the executive director. As of 1975 the Institution contained an Operations Directorate which included four divisions: agriculture and animal husbandry, industry and handicrafts, commerce and technical services, and administrative and financial departments.

The objectives of INTECAP are to promote higher productivity in all economic sectors and to develop human resources at all employment levels. This would include management levels, with special emphasis given to accelerated basic vocational training. The trend of INTECAP has been to decentralize instruction in order to reach rural districts and zones most likely to be the sites of future industrial development. Efforts have been made to train farm workers in methods of industrialized agricultural production. The general objective has been to give technical training to workers already employed and to provide apprenticeship training to youth.

The activities of INTECAP extend into the agricultural, artisan, industrial, commercial, and service fields. Training courses are given in all these areas at all occupational levels. Special technical assistance is given for projects or enterprises or even particular branches of business and industry.

Funds include a state subsidy from the national budget and fees for certain courses, especially at the middle and management levels. Consultancy fees from special projects also provide funds. There is a levy based on a rising scale between .5% and 1% on the

payrolls of industrial and service projects which include more than five workers. This levy also applies to agricultural projects which require more than ten permanent employees.

The facilities of INTECAP reported in 1975 were six regional offices, four centres being gradually equipped, and fifty-three other centres leased by INTECAP. The staff included 53 full-time instructors, 76 part-time instructors, 173 auxiliary and administrative support personnel, 32 technical personnel, and 12 executive personnel.

The types of courses offered by INTECAP include middle-level technician courses, management and supervisory training, apprenticeship for youth between the ages of fourteen and eighteen, and vocational training for both employed and unemployed adults. For unemployed secondary school leavers there is training offered which includes both basic and extended levels of training in industrial and commercial trades. INTECAP also provides in-service training to its own instructors.

Generally speaking, the Institute programs include permanent and ad hoc schemes. These are planned on the basis of surveys of manpower requirements carried out by the Institute itself at all economic levels and on requests received from local authorities, co-operatives, communities, or private sources for specific courses. Programs are also based on the earlier statistical studies set up by institutions which preceeded INTECAP, for instance CFPI, CENDAP, and CDPI. An evaluation of the data collected by regional representatives on local vocational training needs is given serious consideration in all programs.

HONDURAS

National Vocational Training Institute (INFOP)

INFOP was created in December 1972 as an autonomous corporate body having its own funds under the administrative control of the Ministry of Labour and Social Security. The Governing Council of INFOP is comprised of the following members:-

the Minister of Labour and Social Security, the Minister of Education, the Minister of Economics and Commerce, the Executive Secretary of the Council of Economic Planning, two representatives of the Council of the Private Enterprise of Honduras, and two representatives of the Confederation of Workers of Honduras. The Governing Council makes policies and approves programs and activities of the institute, its regulations, budget, and senior personnel.

The objectives of INFOP are to increase productivity in the various industrial sectors of the economy through the establishment and operation of a national system of training in accordance with the national plan for economic and social development.

INFOP's funding is provided by a levy of .5% on wages and salaries paid to civil servants (except members of the army); a levy of 1% on wages and salaries paid by autonomous institutions (except universities); 1% levy on wages and salaries paid by employers employing more than 5 workers, or less than 5 workers but an asset equivalent to 20.000 lempiras or more; voluntary contributions from co-operatives and workers' associations; and donations, grants, or other revenues from voluntary organizations and governments.

As of 1975 the facilities of INFOP included two centres equipped with workshops, classrooms, and offices, and the following staff; 37 full-time instructors, 40 part-time instructors, 48 auxiliary and support personnel, 42 technical personnel, and 13 executive personnel.

Among the major activities of INFOP are the following: research projects to determine the stock of human resources of the country and present and future training needs; planning and administration of training programs for all occupations and industrial sectors of the economy; organization of training programs for the unemployed; consultancy service for employers willing to organize a training program themselves or to start an apprenticeship program; co-operation with the national program for literacy and adult education; acting as a placement service.

INFOP offers a range of training programs which includes

apprenticeship, basic training, further training, and management training. Present trends are directed towards organization, control, co-ordination, and evaluation of all vocational training activities at the national level.

MEXICO

National Service for Accelerated Manpower Training for Industry (ARMO)

Armo was originally established by the government of Mexico with help from the United Nations Special Fund. This was by an agreement signed on 21 June 1965 which expired on 31 December 1971. At that point the government assumed full responsibility for the Service. ARMO is headed by a Co-Ordinating Committee which directs, co-ordinates, and evaluates the institution's activities. The Chairman of this Committee is the Under-Secretary for Industry and Commerce. Members include representatives from the Ministry of Finance and Credit, the Ministry of [illegible], the Ministry of Education, the Ministry of Foreign Affairs, the National Financing Corporation, and the National Productivity Centre. The Director is in charge of executive management, and a Trustee Committee controls finances and budgeting.

The objectives of ARMO are the training and extended training of industrial instructors as well as extended training for workers with a view to improving skill levels. The Service also prepares teaching materials and equipment required for these programs. Technical assistance is given to projects and institutions for vocational training purposes. The National Service for Accelerated Manpower Training for Industry aims to expand its capacity so that it will provide most of the country's enterprises and institutions with facilities for in-plant training. Its general purpose is to instigate and develop the further training of the labour force. The area of activity involves mainly the industrial sector of the nation.

Currently, funding is provided from the government of

Mexico. Initially, however, the government covered 62% and the United Nations Special Fund 38% of the total budget during the introductory period. Since 1972, the government of Mexico has provided all funds required. As of 1975, the facilities of ARMO included five regional offices. The staff included 86 part-time instructors, 60 auxiliary and support personnel, 73 technical personnel, and 4 executive personnel.

The Service conducts its extended training courses for instructors and accelerated training courses for workers at its Central Unit in Mexico City. Instructors trained at the Central Unit then give courses in the principal towns for instructors from industrial projects or enterprises, together with extended training courses for workers and supervisory personnel. When technical assistance is required, it is provided either by the Central Unit or by local regional services.

The annual plan of ARMO is produced in accordance with general industrial training needs. Priority is given to requirements common to several branches of industry.

NICARAGUA

National Training Institute (INA)

INA was created on 8 April 1967 as an autonomous body under the supervision of the Ministry of Labour. The Institute is funded by the Ministry of Labour and its administration is the responsibility of the Director-General. The objectives of INA are to train apprentices, semi-skilled, and skilled workers for the manufacturing, agricultural, livestock, services, and public sectors of the economy. However, by 1975 the Institute was also training personnel for the manufacturing and construction subsectors.

As of 1975, the facilities of INA included two training centres, one equipped with workshops, classrooms, and offices, the other equipped with mobile units to provide in-service or on-the-job training. By that time, the staff included

34 full-time instructors, 10 part-time instructors, 37 auxiliary and support personnel, 4 technical personnel, and 1 executive.

INA has been acting as a National Service for Accelerated Training in Nicaragua, particularly for the manufacturing and construction sector, but its general purpose is to instigate and develop the various sectors of the economy demanding skilled personnel to co-operate in the establishment of a national training service equally available to the several sectors of the economy.

PARAGUAY

National Service for Professional Promotion (SNPP)

SNPP was established in July 1971 by the Ministry of Justice and Labour in Paraguay. The Service is controlled by a Board which consists of the Director of the Service as Chairman and six other members appointed by the government. The Ministry of Justice and Labour nominates the Director, who is then appointed to the Board. The members of the Board are representatives of the Ministry of Education and Culture, the Ministry of Industry and Trade, the Ministry of Agriculture and Farming, the National Planning Secretariat, and employers' and workers' organizations.

The objectives of SNPP are to provide free vocational training, which includes further training for semi-skilled and unskilled workers within all sectors of the economy. SNPP also aims to provide general education in addition to vocational training, to train instructors, and to give initial and extended training to middle-level management. The Service strives to provide initial and extended training for adult workers of both sexes in order to achieve swift and effective development of skills within the labour force and to produce a system of apprenticeship for youth.

The activities of SNPP cover the agricultural, forestry, industrial, and service fields. Funds are derived from compulsory monthly levies on all private employers, which amount to 1% of

their payroll. Funds also accrue from an annual allocation from the national budget, gifts, legacies, and other sources.

As of 1975, SNPP was reported to have three centres equipped with workshops, classrooms, and offices and thirty-eight centres equipped with mobile units. Staff included 41 full-time instructors, 3 part-time instructors, and 3 executive personnel.

SNPP courses are held at the pilot centre at Asuncion, and at other centres throughout Paraguay as well as in mobile centres. Three types of courses are given: those given by the Service itself, using its own instructors and facilities; those given by SNPP instructors in projects or other institutions; and those given at project sites or other institutions which use their own facilities and instructors with only the technical assistance and methods developed by SNPP.

SNPP's activities are programmed in accordance with the government's national development and employment policy. These activities are planned on the basis of continual assessments of manpower priorities as well as on previous studies of manpower requirements.

PERU

National Service for Training in Industry and Tourism (SENATI)

SENATI was originally established in 1961 by a legal act which was amended several months later, and then again in 1972 and 1974. It is a decentralized public body of the industrial and tourist sector, recognized as a corporate body. SENATI is headed by a National Council and a National Board. The members sitting on the National Council are the Chairman, appointed by the Ministry of Industry and Tourism; two members nominated by and representing the Ministry of Industry and Tourism; a member nominated by and representing the Ministry of Education; a member nominated by and representing the Ministry of Labour; a representative of the Peruvian University of Engineering; a member nominated by and representing the National Planning

Institute; one representative of employers' organizations in the industrial sector; one representative of the "industrial communities"; a representative of SENATI employees; a representative of hotel keepers and kindred establishments throughout the country; and a representative of workers from hotels and such industries.

The objectives of SENATI are in accordance with the Peruvian Act, which relates to the industry and tourism sector. SENATI's aims are to establish the principle of adult training at all levels of the tourism sector as specified by the General Education Act. SENATI strives to promote apprenticeship in all skilled trades in each branch of the manufacturing industries and to provide extended training in centres and within projects. Preparation of training schemes for skilled occupations is also part of the SENATI program and the Service has made efforts to extend its activities to the hotel trades as well as tourism. It is also active in all areas of the industrial sector, and lodging establishments.

Funds are derived from a monthly levy of 1.5% on the wages of private or limited companies engaged in the activities which are classified as "manufacturing industries." This is based on the International Standard Classification of Occupations. Companies which carry a levy must employ more than fifteen workers. This tax is charged only on the first 24,000 gold soles. Eighty per cent of the amount collected is spent by SENATI in the regions which contribute these funds. When the administrative expenses have been deducted from the other 20% of the levy, the balance may be allocated by the National Council to those training activities in regions which have inadequate resources.

Facilities of SENATI reported in 1975 were three regional offices and four centres equipped with workshops, classrooms, and offices. Staff included 491 full-time instructors, 10 part-time instructors, 484 auxiliary and administrative personnel, 171 technical personnel, and 52 executive personnel.

Vocational training centres provide courses at the level of primary and secondary supplementary and upgrading for adult

workers. They also provide apprenticeship for young people. There are courses for supervisors and management personnel as well as special courses given in accordance with the needs of any special activities or groups of projects. These SENATI courses cover every type of trade. Semi-skilled and skilled workers are able to attend courses at their place of employment because of instruction which is based on analytical and active teaching methods (Unidad de Instruccion). Mobile teams give courses at project sites or places which may be removed from the regional centres of instruction.

Projected needs for skilled manpower are taken into account when organizing SENATI programs. These projections are based on surveys, on the country's social and economic development plans, and on the evaluation of any production problems which may be revealed in individual enterprises. Programs are adjusted where necessary and plans for future activity designed annually by advisory committees for each branch of an industry. Special programs are designed in accordance with the requirements of each region.

URUGUAY

Higher Technical and Vocational Education Council-Labour University (UTU)

The UTU of Uruguay was established in September 1942. It was based on the institutions which previously had made up the General Board for Industrial Education, which was an autonomous body. In January 1973, UTU was made responsible for secondary level technical-vocational education. Technical-vocational education is co-ordinated, regulated, and administered by an autonomous national council, as is the case with all primary and secondary education. This secondary level technical-vocational education is directed and administered by a Council made up of three members, one of whom acts as Director-General. The National Council of Education appoints this Council. The organization is

program-oriented, with each program having its own management. Programs are in the sectors of business administration, agriculture, technical-vocational education, industrial technical-vocational education, handicrafts and decorative arts, home economics, commercial and service fields, teacher training, and educational planning.

The objectives of UTU as outlined in January 1973 are as follows: to teach those skills and abilities needed in technical and artisan trades and to prepare for higher education; to develop further education received at lower levels; to train skilled workers and provide services responsible for dealing with the psycho-physical problems of youth in order to meet the needs of a productive economy; to provide training facilities, including management training, for vocational skills needed to improve efficiency and productivity; to research and distribute scientific and technical information on a national basis. UTU is involved in all sectors of economic activity - primary, secondary, and tertiary - which involve vocational and technical education and training.

Funds are drawn from the national budget as well as from legacies, gifts, and other contributions. As of 1975 the facilities of UTU included 82 centres equipped with workshops, classrooms, and offices and 93 centres equipped with mobile units. Staff included 530 full-time instructors, 2,600 part-time instructors, 1,975 auxiliary and support personnel, 50 technical personnel, and 180 executive personnel.

UTU courses are given in full-time schools and centres and in mobile training units. Courses offered include regular vocational courses for industrial, agricultural, and artisan trades as well as for artistic occupations, commercial and service occupations, and training courses for women. UTU also gives teacher and instructor training and extended training. Like other services training is conducted within both public and private projects or enterprises.

UTU ensures that technical education is co-ordinated with general education. Vocational training is programmed to meet the

manpower requirements in agriculture and farming, commerce and public administration, and industry, and programs are based on considerations of the government's development plans.

VENEZUELA

National Institute for Educational Co-operation (INCE)

INCE was established in August 1959 and further regulated in March 1960. It originated as an autonomous body with its own funds under the control of the Ministry of Education. The act was partly amended and brought into effect in January 1970. INCE policy-making is the responsibility of the National Administrative Council. This Council has a Chairman, Vice-Chairman, and Secretary-General, who represent the ministries of Education and Development and Labour. Members of the Council also represent the Chambers of Agriculture, Commerce, and Industry. Representatives of agricultural and industrial workers and salaried employees (those nominated by the unions), and members of the Venezuelan Federation of Teachers are also members of the Council. An Executive Committee administers the Council and consists of a Chairman, Vice-Chairman, and Secretary-General who are all appointed by the President of the Republic. Two other members sitting on the Committee are nominated by the National Administrative Council from among its own members.

INCE strives to develop and promote the vocational training of adult workers at all levels both in the institution's own centres and elsewhere. It promotes vocational training at project sites in consultation and co-operation with the employers or by correspondence, and also offers training programs for unemployed youth. It organizes and supervises apprenticeship for young workers, trains agricultural workers, takes part in literacy campaigns, and prepares vocational teaching material and equipment. The basic aim of INCE is to advance apprenticeship in every economic field while simultaneously improving the skills of those already employed. The Institute strives to train unemployed youth

through its Training Program for Unemployed Youth.

INCE is active in the commercial, industrial, agricultural, and service sectors. It is funded by a 2% levy on the total payroll of commercial and industrial enterprises with five or more employees. Workers are subject to a levy of .5% of their wages. The state contribution is equivalent to 20% of the total levy. As of 1975, the facilities of INCE were reported to be 3 regional offices, 47 centres equipped with workshops, classrooms, and offices, and 18 centres equipped with mobile units. The staff included 1,157 full-time instructors, 1,782 part-time instructors, 1,560 technical support personnel, 831 auxiliary personnel, 20 executive personnel.

INCE facilities also include training centres, specialist institutions, projects, mobile units, and correspondence courses. Courses offered include apprenticeship for youth between fourteen and eighteen, accelerated training courses, extended training, specialist trade courses for adults, supervisory and instructor training, industrial relations courses, literacy and higher education courses, and training for INCE personnel.

INCE's programs are based on regional as well as occupational and national manpower surveys. These surveys are carried out by the INCE Programming and Technical Services Division and by its training divisions, which include industrial, commercial, in-plant, and rural sectors.

Definitions of Courses Offered by Training Institutions

Vocational training institutions offer courses to adult workers with no previous knowledge of the job or occupation for which they propose to qualify or to people wishing to upgrade their qualifications or receive further education. Also, nine institutions in Latin America have apprenticeship schemes for youth and another three intend to start such programs in the near future.[6] The following standard terms are used to refer to the

various types of courses and programs offered.

Apprenticeship schemes for youth from fourteen to eighteen years of age provide skill training through a mixed program of theoretical courses and practical work at training centres and in plants over a period of about three years. Apprentices join firms or enterprises with a special work contract known as an apprenticeship contract. Candidates for apprenticeship must normally have finished primary schooling. The courses require from 1,600 to 3,000 hours of instruction spread over eighteen to thirty-six months. Apprenticeship is generally considered a specialized vocational training course.

Generally speaking, vocational training courses are those intended for youth or adults with no prior knowledge of a job or occupation; and, training or further training courses are those meant for persons wishing to update or improve their skills in a job or occupation.

Vocational training for adults refers to a systematic and accelerated training of limited duration. It is primarily intended for adults who are qualified for a skilled job. The courses are divided into blocks of approximately 180 hours each. Sometimes they are offered at night. Adult vocational education is generally reserved for adults who wish to complement a general education or acquire particular skills. Adult vocational education supplements the system which provides vocational training for the young.[7]

Basic skills courses are intended for participants whose knowledge and skills are insufficient as a basis for subsequent training, that is, courses in literacy and basic arithmetic.

Upgrading courses are intended for individuals who are already working at the skilled level but wish to prepare for positions of greater responsibility. This kind of course may improve and update technical skills and theoretical knowledge. The duration of the courses varies according to the background of participants.

Courses of specialization are intended for individuals who are already working at the skilled level but wish to specialize,

update, and consolidate their technical skills and theoretical knowledge in a specific area.

Finally, there are courses for the instructors and teachers in vocational training institutions. Their primary purpose is to train people in modern and active methods of teaching and to update their technical skills. There are also courses to train supervisors to organize, direct, and control workers involved in the production process.

3

THE ORGANIZATION OF LATIN AMERICAN VOCATIONAL TRAINING INSTITUTIONS

Eleven out of nineteen vocational training institutes in Latin America are dependent on or attached to labour ministries, three of them to educational ministries (Argentina, Uruguay, and Venezuela), one to a ministry of economics (Chile), and another one to a ministry of industry (Peru). In the cases of Cuba, Jamaica, and Trinidad and Tobago, there are training institutes dependent on other ministries or agencies. Table 3 shows the situation for each country.

In spite of their dependence or attachment, many of these institutions are autonomous or decentralized bodies. In most cases they can act as independent legal entities, and have their own resources and direct means of financing.

The Brazilian case is exceptional from the organizational standpoint; both SENAI and SENAC are directly managed by the employers' federations of industry and commerce, respectively.

One of the important features of vocational training institutions is the composition of their managing board or council of representatives. Membership generally includes both employers' and workers' representatives. Representatives from the ministries of labour and the ministries of education are also included. However, representatives of the national planning agency participate in only seven of these institutions. Such liaison is important not only to co-ordinate national training programs with national plans of development, but also to direct the action of national training institutions to the solution of current regional

Table 3: Structure of Vocational Training Institutions

Acronym	Dependent on or attached to	Representatives on the Board: Ministry of Labour	Ministry of Education	Planning agency	Employers	Workers	Other
CONET	Ministry of Education and Culture	X	X	-	X	X	X
FOMO	Ministry of Labour[1]	-	-	-	-	-	-
SENAI	National Industrial Confederation	X	X	-	X	-	X
SENAC	National Confederation of Commerce	X	X	-	X	X	X
PIPMO	Ministry of Labour	*	*	*	*	*	*
DNMO	Ministry of Labour	X	X	X	X	X	-
SENA	Ministry of Labour	X	X	X	X	X	X
INA	Republic Presidency[2]	-	-	-	-	-	-
INACAP	CORFO/Ministry of Economics	X	X	-	X	X	X
SECAP	Ministry of Labour	X	X	X	X	X	X
DNA	Ministry of Labour	*	*	*	*	*	*
INTECAP	Ministry of Labour	X	-	X	X	X	X
INFOP	Ministry of Labour	X	X	X	X	X	X
ARMO	A government agency	X	X	-	-	-	X
INA	Ministry of Labour[1]	-	-	-	-	-	-
	Ministry of Labour	X	X	-	X	X	X
SNPP	Ministry of Labour	X	X	X	X	X	X
SENATI	Ministry of Industry & Tourism	X	X	X	X	X	X
UTU	Ministry of Education	-	X	-	-	-	X
INCE	Ministry of Education	X	X	-	X	X	X
20		14	14	7	13	12	14

Source: CINTERFOR, Prospective Study on Vocational Training in Latin America and the Caribbean Countries, Vol. II (Montevideo 1975).

* No information available.

1 It has no board.

2 The government council elects members.

employment problems.

The financing of vocational training activities is achieved in most cases by a direct tax or levy payable by firms and enterprises; it varies from 0.5% to 2% of their payrolls. In Panama and Venezuela, workers also make a contribution. In a number of countries, financing is provided within the national budget. Such is the case of Bolivia's FOMO, Chile's INACAP, and most training activities carried out in Argentina, Cuba, El Salvador, Jamaica, Nicaragua, Trinidad and Tobago, and Uruguay.

Participants in Vocational Training Programs

Latin American training institutions offer a wide range of courses, both at training centres and in plants, or by means of mobile units. The number of trainees enlisting for courses has gradually increased, as is shown in Table 4. During the last decade a growth of over 500 per cent has occurred in the enrolment of these institutions.

The figures in Table 4 include the total number of trainees attending a wide range of courses in the vocational training institutions of the region; some of these courses are for minors (apprenticeship schemes), others for youth, but most of them are for adults.

Vocational training institutions have focussed attention mainly on active adult workers, and to a lesser extent on the unemployed or underemployed wishing to acquire new skills or trades. They also look after the training of migrant workers and inhabitants of depressed areas, but most of the resources available for training are not going to train underprivileged people. It seems that most of the workers trained by these programs are people with some level of education and with relatively high skills who could function in the work force with less difficulty than more underprivileged people, even without additional training.

There is lack of information concerning this particular aspect of the national manpower training programs. The few

Table 4: Participants in Vocational Training Programs

Country	Institution	1955	1960	1965	1970	1973
Argentina	CONET[1]	83,000[2]	99,350	123,556[3]	148,400[3]	183,935
Bolivia	FOMO					633
Brazil	SENAI	45,000[3]	85,000[3]	127,284	272,540	308,649
	SENAC	37,000	45,650	56,200	98,500	302,899
	PIPMO			34,844	81,839	204,967
	DNMO				67,662	174,128
Colombia	SENA		11,674	32,938	268,000	311,623
Costa Rica	INA			123	4,147	8,002
Cuba					n.i.	n.i.
Chile	INACAP		85	12,197	31,710	30,951
Dominican Republic					n.i.	860
Ecuador	SECAP				1,350[3]	6,533
El Salvador	MINLAB			n.i.	3,250[3]	3,966[4]
Guatemala	CENDAP			1,510	5,408	8,632
	INTECAP					
Honduras	INFOP					359
Jamaica					n.i.	7,900
Mexico	ARMO				n.i.	10,800
Nicaragua	INA				1,137	1,716
Panama	IFARHU				1,972	3,126
	MINLAB					
Paraguay	SNPP					1,818
Peru	SENATI			5,311	22,914	21,120
Trinidad & Tobago					n.i.	6,884
Uruguay	UTU[1]	10,000[2]	19,300	26,900	35,961	36,098
Venezuela	INCE		13,908[5]	76,890	87,925	125,408
Total		175,000	274,967	497,630	1,132,755	1,761,007

1 CONET and UTU include vocational education.
2 Estimated.
3 Approximate values.
4 1972.
5 INCE: 1960, 1961.
n.i. = no information available.

studies available related to this issue show that the efforts of these institutions have not been directed to reach the most disadvantaged members of society. The study conducted by Jeffrey M. Puryear[1] in Colombia, for example, with respect to the recruitment to industrial apprenticeship by SENA, concludes that this particular program does not reach the most disadvantaged portion of those eligible to enrol. Apparently, the characteristics associated with successfully completing the SENA apprenticeship program are similar to those associated with acquiring any form of post-primary education.

Proponents of non-formal and adult education often assert that such programs provide educational opportunities to persons who might otherwise do without any education whatsoever. In most underdeveloped countries only members of the middle and upper classes enrol in the formal educational system for more than a few years. The poor must begin work at an earlier age. They lack the sophistication and self-confidence necessary to enter and succeed in the formal educational system. They are disadvantaged by poor nutrition and less intellectual stimulation. Their schools are of a poorer quality and they cannot afford better educational opportunities. It can be assumed that since the disadvantaged will continue in this pattern, they may be best served by non-formal and adult education terminal programs which will equip them with skills immediately useful in the labour market.

The data presented by Puryear concerning Colombia suggest that many SENA graduates were not interested in a terminal training program. One reason is that SENA recruits seem to come from backgrounds much like those of youth who attend the regular secondary schools rather than like those of youth who cannot afford secondary education.

The same situation tends to happen with respect to adults. Although one cannot automatically assume that people from the cities are educated and those from the country are backward, it can be assumed that important differences occur in these two settings in terms of levels of productivity and levels of

education and training. Nonetheless, most of the activities of the manpower training programs in Latin America are concentrated on raising productivity through training in the more developed economic areas.

The same shortcomings with respect to the relatively limited activities of these programs in the agricultural sector can be seen with respect to other less advanced economic sectors such as the non-formal services. The scarcity of training opportunities in the agricultural sector is similar to that in other less developed sectors of the economy.

As shown in Table 4, the growth of the number of trainees has not been uniform throughout Latin America. In some countries, especially those with the oldest vocational training institutions, training activities have been extended to a certain portion of the labour force, but rarely has more than 2% of it participated in such courses. It may be gathered from Table 5 that despite the considerable effort and funds spent by the vocational training institutes in the region, their impact is still negligible in many countries.[2] By 1973, at the regional level, participants in vocational training programs barely accounted for 2.14% of the total labour force.

Table 5 also shows that the supply of manpower training, as expected, is more abundant in the relatively industrialized countries of the region. In countries such as Chile and Mexico, where the scope of these programs is still limited, the labour market has been supplied by people trained in the vocational schools. In other countries, such as Argentina and Uruguay, vocational training is provided within the framework of the formal system of education through vocational schools. Here a comparison can be made between the development of the formal system of education and the need to establish non-formal vocational training programs. For instance, because high schools in the United States provided a good deal of the skilled manpower needed for industrial growth, it was not imperative to implement large-scale programs of apprenticeship, as was the case in some European countries, particularly in Britain and Germany. In the case of Latin America,

Table 5: Training Activities Compared to Labour Force (1973)

Country	Institution	Total matriculation A	Labour force B	A/B %
Argentina	CONET	183,935*	9,461,000	1.94
Bolivia	FOMO	633	1,988,000	0.032
Brazil	SENAI	308,649	32,541,000	0.95
	SENAC	302,899	"	0.93
		990,643		3.04
	PIPMO	204,967	"	0.63
	DNMO	174,128	"	0.54
Colombia	SENA	311,623	6,812,000	4.57
Costa Rica	INA	8,002	574,000	1.39
Cuba	-	n.i.	n.i.	-
Chile	INACAP	30,951	2,889,000	1.07
Ecuador	SECAP	6,533	2,147,000	0.30
El Salvador	MINLAB	3,966**	807,000	0.49
Guatemala	INTECAP	8,632	1,547,000	0.56
Mexico	ARMO	10,800	13,014,000	0.08
Nicaragua	INA	1,716	600,000	0.28
Panama	MINLAB	3,126	489,000	0.67
Paraguay	SNPP	1,818	756,000	0.24
Peru	SENATI	21,120	3,273,000	0.64
Trinidad & Tobago	-	6,884	278,000	2.48
Uruguay	UTU	36,098*	1,430,000	2.52
Venezuela	INCE	125,408	3,314,000	3.78
Total		1,751,888	81,930,000	2.14

Sources: A: Table 3; B: Cuadro Comparativo y Fichas Descriptivas de las Instituciones de Formacion Profesional de America Latina.

* Including vocational education and vocational training.

** 1972.

n.i. = no information available.

the only countries which have diversified and well-developed secondary schools are Argentina and Uruguay. Because Brazil did not have well-developed vocational schools, accelerated programs of training were established there in the last three decades.

Occupational Levels Served by Manpower Training Programs

Until recently, vocational training institutions have catered mainly to unskilled, semi-skilled, and skilled workers, although some offer training courses for intermediate level technical personnel, supervisors, and managers.

There is no regional statistical series available covering a long period of vocational training programs in Latin America. The Inter-American Research and Documentation Centre on Vocational Training, CINTERFOR, has issued its Comparative Table and Descriptive Cards of Latin-American Vocational Training Institutions since 1971, as an attempt to compile all pertinent information. Most of the statistical data of this study relies on those publications.

Table 6 has been devised using data supplied by Latin American vocational training institutions to CINTERFOR. It shows student enrolment by occupational levels. With the exception of UTU (Uruguay) and CONET (Argentina), which offer primarily technical and vocational education, all other institutions of the region concentrate mainly on programs for workers.

It has been impossible to prepare a table showing the economic sectors benefiting most from the activities of vocational training institutions in the region. Few institutions supply statistical data about their courses according to an economic classification of occupations. Most institutions cover all major sectors of their country's economy, but their past activity has mainly focused on the secondary sector and on industry in particular.[3] More recently, however, they have paid attention to the training of workers for agriculture and livestock production, since these activities urgently need to raise their levels of productivity. Consequently, one of the major criticisms that can

Table 6: Vocational Training in Latin America by Occupational Level

Kind of Participants	1971 Number	1971 %	1972 Number	1972 %	1973 Number	1973 %
Workers	1,027,680	87.84	1,094,983	89.25	1,355,306	88.92
Supervisors	183,234	9.25	109,213	8.90	123,015	8.08
Technicians	8,761	0.75	10,966	0.89	12,904	0.80
Others*	25,267	2.16	11,722	0.96	33,618	2.20
Total	1,169,972	100.00	1,226,884	100.00	1,524,033	100.00

Source: CINTERFOR: Cuadro Comparativo y Fichas Descriptivas de las Instituciones de Formacion Profesional de America Latina, 1972, 1973, 1974.

Note: CONET (Argentina) and UTU (Uruguay) are not included; these two institutions have a total of 42,142 trainees attending technical level courses. The table includes participants belonging to fourteen Latin American vocational institutions.

* Includes instructors, teachers, administrators, and management personnel of the vocational training institutions themselves.

be addressed to these programs is that they have concentrated their efforts on developing skilled workers for modern industry instead of focusing on the less developed and less productive sectors.

Vocational Training, Employment, and Unemployment

Growing unemployment is one of the main subjects of concern to Latin American specialists in human resource usage. The battle against unemployment should be declared a top priority objective by the vocational training institutions of the region. Although surveys conducted in this field are generally of limited coverage, most Latin American countries have some awareness of the employment situation. A few employment studies have covered unemployment and underemployment problems exhaustively. Some countries have had technical assistance from PREALC (ILO Regional Employment Program for Latin America) to carry out such studies.

Data concerning the rate of unemployment by country shows the paradoxical existence of increasing unemployment trends in the more industrialized countries of Latin America.[4] One of the main reasons for this is the utilization of unsuitable technological processes which require little, if any, additional manpower to increase productivity. While this strategy can be ideal in an area lacking human resources, such is not the case in Latin America. The general rate of growth of the population of the region is 2.9%, but the rate at which additional jobs have been created during the last decade has fluctuated around 1.5%. This huge lack of job opportunities has obvious implications for vocational training institutions. They cannot, in fact, create new jobs by providing training, but they can help to adapt the labour available to the particular requirements of the labour market. Also, they can contribute to the development of the skills of workers from less productive sectors. Unfortunately, national plans and employment surveys have not assigned training institutions a clear role in relation to unemployment problems.

It is generally assumed that vocational training programs

help to alleviate unemployment and underemployment by retraining the unemployed for occupations that are in greater demand and by offering further training courses that prevent the dismissal of workers through the occurrence of technological change. But one may ask whether this costly process benefits workers as much as it does the entrepreneurs and owners of industry. It can be assumed that employers profit from an abundance of skilled labour, but not that workers profit as much from training opportunities and from improved employment opportunities that subsequently should be open to them.

Possible ways in which vocational training institutions could battle against unemployment and underemployment are: by promoting workers' productivity; by training the unemployed; by supporting policies to adjust the labour market; by promoting independent employment through special training.

Vocational Training: Supply and Demand

The volume of training activities already provided by some Latin American countries make it advisable to develop refined methods and mechanisms to estimate future training needs. By 1973, only five Latin American countries had reported to CINTERFOR that they had conducted surveys of the demand for training by economic sector.[5] Other countries possessed only limited information concerning the demand for training in the secondary and/or tertiary sectors.

Probably more important than the demand for training is the extent to which national institutions in each country satisfy this demand. A survey conducted by CINTERFOR[6] found that "coverage fluctuates from 0.3-1 per cent to 25 per cent for the primary sector (agriculture and livestock, fisheries, etc.). For the secondary sector (industry, construction, etc.) the proportion increases to 50 per cent, which shows clearly the preferential attention it receives. For the third sector (commerce, service and miscellaneous) coverage goes from 1.2 per cent to 50 per cent."

The extent to which non-formal vocational training activities are sponsored by other agencies is generally not very well known in Latin America. Existing information seems to indicate that such activities are not particularly significant, save for the commerce and services sector, where they appear to have grown quite noticeably in some countries.

There are some surveys of the demand for training which contain general estimates of potential requirements, that is, requirements directly inferred from calculations based on current and projected economic trends.

The demand can be grossly estimated by the yearly number of applicants to courses offered by national training institutions. This demand usually far exceeds the supply.[7] Such a situation is particularly evident for courses aimed at the secondary sector of the economy, especially those intended for young, inexperienced workers.

Formal Systems of Education and Manpower Training

As stated earlier, two of the twenty vocational training institutions considered in this study form part of their respective countries' general educational system (CONET and UTU). They are integrated with the formal system of education and the courses offered to workers and adults are recognized in the general system of education of those countries.

The relationship between formal and non-formal education is ambiguous. Most vocational training institutions in Latin America consider vocational training for adults a form of permanent, recurrent, or continuing education, occurring outside the formal system of education. However, some instances of co-operation have occurred in the region. The following may be noted:

(a) Staff, premises, and equipment belonging to technical schools of the general educational system are used by some vocational training institutions for evening courses.

(b) The Brazilian SENAI and the Chilean INACAP offer

post-secondary courses and the Guatemalan INTECAP offers intermediary ones.

(c) The Brazilian SENAC conducts occupational courses at comprehensive secondary schools created following the 1971 Brazilian educational reform. Such courses are held in some Brazilian states by agreement with the Ministry of Education.

(d) Several institutions have teacher training courses intended for technical education at the secondary level. Such is the case with courses offered by INA in co-operation with the Costa Rican National University; those offered by INACAP in agreement with the Chilean State Technical University and the Education Ministry; and supplementary courses held by SECAP for teachers from Ecuador's technical schools.

(e) The Venezuelian INCE and the Peruvian SENATI have integrated adult literacy courses as part of their basic skills courses.

A brief picture of links between the formal and non-formal system of education and training in Latin America can be summarized as follows:

(a) Complementary action in subject matter areas and skills not adequately covered by the formal system (integration into the formal educational system is not generally expected).

(b) Several vocational training institutions anticipate active collaboration in training teachers for technical education.

(c) Three institutions (particularly in Brazil) are taking active part in occupational aspects of comprehensive secondary education.

(d) At the higher levels, several organizations envisage future action in training technicians through intensive programs. Traditionally, such professionals were trained in the vocational and technical schools and polytechnical institutes in Latin America.

One critical aspect of the relationship between formal and non-formal education is validation by the former of studies undertaken by a student in the latter. This point is important because of the way graduates of the non-formal educational system

may have to face the labour market. If they are discriminated against for not possessing the right credentials, then the solution of providing non-formal education instead of regular education is incomplete.

In most cases the programs and certificates awarded by vocational training institutions have full value in the labour market. This means that the graduation diploma or certificate is enough for the former trainee to hold jobs requiring proof of qualification. But this does not necessarily mean that the graduates of vocational training institutions can pursue further education in the regular system of education.

It is worth mentioning that recognition of training credits by the respective ministries of education is of greater importance for apprentices than for adults, since the former are intended for minors who might perhaps wish to join the general educational system later in their lives.

In most Latin American countries, secondary education is characterized by strict distinctions between general and vocational and technical education; it is virtually impossible to move from one to the other. Such a system is incapable of supplying a labour force with the level of mobility required by modern industry, nor can it provide a basic education which guarantees access to future training.

The average enrolment rate (in the fifteen- to nineteen-year-old age group) for Latin America was 25% in 1965; this figure should reach about 56% by 1980. This increased attendance will have to be accompanied by fundamental structural changes in order for vocational training to become an integral part of secondary education. The current unsuitability of vocational education schools obliges government to take piecemeal, emergency measures which are badly co-ordinated and frequently result in considerable waste.

Also, in Latin America there is a marked absence of co-operation between senior secondary and higher education institutions and industry with respect to scientific and technical training. This lack stems largely from the region's too heavy

economic and cultural dependence on foreign technology, as well as industry's mistrust of the university system and a lack of scientific and technical research.

Everybody concerned, however, recognizes the value of practical training for students and other youth in training centres and institutions; hence, periods of practical experience organized for them in industry have burgeoned and their pedagogical quality has improved. But few institutes conduct industry-based research or act as consultants to industry; on the whole, industry does not recognize the contribution the institutes could make in this respect. Such co-operation between industry and the institutes as exists is mainly at the level of national councils for science and technology. The result is that most of the technical and scientific research of the region is never implemented.

Tables 7(a) and 7(b) show the increase in enrolment in vocational training institutions compared with that in vocational and technical schools of Latin American countries during the last twenty years.

In 1955 the ratio between enrolment in vocational training courses and in vocational education schools was 4:1. Since enrolment in training courses was low, the amount of resources devoted to training institutes was low, but this situation has changed rapidly during the last twenty years and today, even if enrolment is similar, the resources available for training activities is greater than that available to vocational schools.

With the exception of Argentina and Uruguay, where the development of training and vocational education has grown rapidly, it can be said that training enrolment has grown at a much faster rate than the enrolment for vocational and technical schools. During the first decade considered in Table 7(a), enrolment in training courses multiplied by ten, while enrolment in vocational schools only doubled. During the last decade, Tables 7(a) and 7(b), enrolment in training courses multiplied by five, while enrolment in vocational schools only multiplied by one-third.

Table 7(a): Evolution of Enrolment in Vocational Education and Training Courses in Latin America (1955-65)

Country	Training institute	1955		1960		1965	
		Training	Voc. ed.	Training	Voc. ed.	Training	Voc. ed.
Argentina	CONET	83,000[2]	267,322	99,350	289,979	123,556[3]	425,588
Bolivia	FOMO	-	9,622	-	7,394	-	10,023
Brazil	SENAI	45,000[3]	142,719	85,000[3]	218,522	127,284	380,459
	SENAC	37,000	142,719	45,650	218,522	56,200	380,459
	PIPMO	-	142,719	-	218,522	34,844	380,459
	DNMO	-	142,719	-	218,522	-	380,459
Colombia	SENA	-	42,369	11,674	74,874	32,938	96,834
Costa Rica	INA	-	2,999	-	5,297	123	7,485
Chile	INACAP	-	43,776	85	59,913	12,197	125,344
Dom. Rep.		-	9,311	-	21,968	-	-
Ecuador	SECAP	-	12,101	-	19,450	-	40,588
El Salvador	MINLAB	-	6,324	-	10,051	-	9,929
Guatemala	INTECAP	-	8,199	-	2,789	1,510	6,794
Honduras	INFOP	-	5,211[4]	-	3,620	-	2,617
Mexico	ARMO	-	95,655	-	121,001	-	236,159
Nicaragua	INA	-	3,500[2]	-	2,700	-	3,001
Panama	IFARHU	-	7,974	-	10,691	-	21,044
Paraguay	SNPP	-	7,822	-	4,821	-	1,703
Peru	SENATI	-	20,065	-	39,359	5,311	68,718
Uruguay	UTU	10,000[2]	14,651	19,300	21,000	26,900	26,298
Venezuela	INCE	-	13,798	13,980	43,986	76,890	93,120
Total		175,000	713,418	274,967	956,915	497,630	1,585,704

Sources: 1 For vocational training participants: CINTERFOR, Prospective Study on Vocational Training in Latin America and the Caribbean Countries, Estudios y Monografias, Vol. I (1975) 13.

2 For vocational education: UNESCO, Statistical Yearbooks 1965-73; and Organization of American States, America en Cifras, 1972 (Washington, DC: Situacion cultural; Educacion y otros 1973).

1 CONET and UTU include vocational education and vocational training.
2 Estimated (by CINTERFOR).
3 Approximative values estimated by the author.
4 Refers to 1956.

Table 7(b): Evolution of Enrolment in Vocational Education and Training Courses in Latin America (1970-74)

Country	Training institute	1970 Training	1970 Voc. ed.	1974 Training	1974 Voc. ed.
Argentina	CONET	148,400	519,100[6]	192,000	370,700[5]
Bolivia	FOMO	-	10,452[6]	660[2]	13,000[1]
Brazil	SENAI	272,540	570,078[6]	415,000[2]	602,000[5]
	SENAC	98,500	570,078	396,000	602,000
	PIPMO	81,839	570,078	204,967[4]	602,000
	DNMO	67,622	570,078	174,128[4]	602,000
Colombia	SENA	268,000	94,265[6]	431,000	335,000
Costa Rica	INA	4,147	5,989	9,000[1]	18,000[1]
Chile	INACAP	31,710	127,448[6]	37,000	162,000[5]
Dom. Rep.		-	-	860[4]	6,600[5]
Ecuador	SECAP	1,350[1]	55,659[5]	12,000[1]	69,000[1]
El Salvador	MINLAB	3,250[1]	27,437	3,966[3]	26,400[5]
Guatemala	INTECAP	5,408	15,810	8,632[4]	9,600
Honduras	INFOP	-	8,089	4,000	14,000[1]
Mexico	ARMO	-	255,700[1]	16,000	277,000[1]
Nicaragua	INA	-	4,500[1]	1,500	[illegible][1]
Panama	IFARHU	1,972	27,310[6]	3,126[4]	23,000[5]
Paraguay	SNPP	-	3,490	3,700	2,800[5]
Peru	SENATI	22,914	112,747	23,000	254,000
Uruguay	UTU	35,961	36,913	38,000	
Venezuela	INCE	87,925	160,353[6]	155,300	163,000[1]
Total		1,132,755	1,778,540	2,032,385	2,350,300

Sources: 1 For vocational training participants: CINTERFOR, Prospective Study on Vocational Training in Latin America and the Caribbean Countries, Estudios y Monografias, Vol. I (1975) 13.

2 For vocational education: UNESCO, Statistical Yearbooks 1965-73; and Organization of American States, America en Cifras, 1972 (Washington, DC: Situacion cultural, Educacion y otros 1973).

1 Approximative values estimated by the author.
2 Only 289,000 trained directly by SENAI; the rest were trained on the job.
3 Refers to 1972.
4 Refers to 1973.
5 Refers to 1969-70.
6 Refers to 1971, data from USAID (Brazil): Brazil Education Sector.

Conclusions

From the data gathered in Tables 7(a) and 7(b) it can be concluded that there is a tendency to orient the preparation of skilled labour and technicians through vocational training institutes which are independent of the formal system of education. This tendency corresponds to a new view of the training of skilled labour which started some ten years ago when Philip Foster showed the inadequacy of vocational and technical schools in promoting economic development through the preparation of qualified manpower for the labour market.[8]

4

FINANCING PATTERNS OF EDUCATION AND TRAINING IN LATIN AMERICA

Before undertaking a detailed examination of the patterns of finance in Latin American vocational training, it would be well to have a look at the global patterns of finance that characterize the "education industry" in Latin America.

The precarious situation of public budgets for education in various countries of the region is not unique to education. Many of the social services in Latin America are partially dependent on earmarked taxes and income from special sources granted by national legislation (for example, lotteries, taxes on liquor, cigarettes, and gambling). This trend derives from the multiplicity of special interests exerting pressure for funds, and the insufficiency of general revenues. Thus, various institutions and programs have tried to protect their sources of income by separating them from the general revenues of the government. Earmarked revenues will no doubt continue to be of importance to education in the foreseeable future, but it is far from desirable that their importance increase. The proliferation of earmarked taxes is contrary to sound principles of public financing,[1] and makes national planning impossible. Furthermore, the resulting complex tax system leads to high administrative costs for collection and distribution and acts as a disincentive to economic growth. Within the educational sector itself, the capacity for planning inevitably decreases whenever the revenue of specific programs and institutions decreases. At the same time, the apparent security of income created by earmarked taxes for

educational programs may become a strait-jacket for programs deserving high priority, if their needs increase while the source of revenue remains static.

As noted above, several Latin American countries have included in their tax systems special taxes to benefit the development of education in general and the physical infrastructure of education in particular. They are established by various different legal provisions. A few cases will be discussed to illustrate the difficulty of modifying the existing system of taxes for education.[2]

In Bolivia, for instance, there is a tax on wages for education, from 0.25% to 4%, depending on the amount of a particular wage. Also, municipalities require any urban development enterprise to transfer free land to the government for educational buildings.

Similarly, Chile has a tax of 1% on wages and salaries for the construction and equipment of educational buildings. In addition, there are taxes on gambling (1%), lotteries (2%), casino tickets (30%), property (0.5%), profits of insurance companies (5%), and inheritance and luxury items (5%). In fact, there are about twenty-five laws concerning different sources of revenue for education.

In the same vein, Ecuador has established a special tax of about 20% on beer and cigarettes that benefits education. In Mexico, as well as various special laws for the provision of funds for educational activities in each state, there is an additional tax of 1% of income tax paid, for educational purposes. Also, as in Bolivia, urban developers must transfer free land for educational facilities to the state.

According to statistics published recently by UNESCO, by 1970 the number of pupils enroled at the three levels of the educational systems in the region was over 40 million, and the total public expenditure in (formal) education was about four billion dollars (see Table 9).

With respect to enrolment and expenditure on vocational training institutions of the region, tables 7 and 8 show that, by

Table 8: Financial Resources of Selected Latin American Training Institutions (1974)

Country	Institution	Financial source govt.	firms	Local currency (thousands)	Exchange rate	US dollars (thousands)
Argentina	CONET[1]	x	x	848,64	9.23	85.462,00[2]
Bolivia	FOMO	x		5.680,00	20.40	278,43
Brazil	SENAI		x	563.000,00	8.00	70.375,00
	SENAC		x	245.000,00	8.00	30.625,00
	PIPMO	x		34.301,00	8.00	4.886,12[2]
	DNMO	x		39.134,00	8.00	5.574,62[2]
Colombia	SENA	x	x	742.000,00	31.00	23.935,48
Costa Rica	INA	x		21.000,00	8.60	2.441,86
Chile	INACAP	x		9.577.000,00	4.800.00	1.995,20
Ecuador	SECAP	x	x	42.000,00	24.96	1.683,36
Guatemala	INTECAP	x	x	2.000,00	1.00	2.000,00
Honduras	INFOP	x	x	3.500,00	2.00	1.750,00
Mexico	ARMO	x		28.000,00	12.50	2.240,00
Nicaragua	INA	x		8.000,00	7.00	1.142,86
Panama*	MINLAB	x	x	no information available		
Paraguay	SNPP	x	x	73.000,00	130.00	561,34
Peru	SENATI		x	789.000,00	38.70	2.038,76
Uruguay	UTU[1]	x		1.700.000,00	2.800.00	6.071,40
Venezuela*	INCE	x	x	229.000,00	4.30	53.255,80
Total	18					US $296.317,430

Sources: CINTERFOR, Cuadro Comparativo y Fichas Descriptivas de las Instituciones de Formacion Profesional de America Latina (Montevideo, Uruguay 1975); and Prospective Study on Vocational Training in Latin America and the Caribbean Countries, Vol. I, (Montevideo, Uruguay: CINTERFOR 1975).

* In Panama and Venezuela workers also contribute to financing.

1 CONET and UTU include technical education.

2 1973.

1974, there were more than 2 million participants in different vocational training programs whose cost was almost 300 million dollars. As shown in Table 9, public expenditure in education represented an average of 17% of the national budgets in the region by 1969. This corresponded to about 3.7% of the GNP.

It has been calculated by the United Nations[3] that total expenditure in education in Latin America will exceed 11,000 million dollars by 1980 and that public expenditure in education and training will probably represent about 5.5% of the GNP.

Given the scarcity of statistics on the financing of education in Latin America, it is difficult to calculate the exact amount of financial resources consumed by education. However, it is possible to get some disaggregated data concerning expenditures in vocational training activities. Such data include the proportion which various sources of revenue contribute to the budget of vocational training institutions of the region.

The financing of vocational training activities in the region is achieved in most cases by a direct tax or levy payable by firms and enterprises, varying from 0.5% to 2% of their payroll. In Panama and Venezuela, workers also make a contribution (0.5% of their wages, in the latter country). In the case of Chile's INACAP and Bolivia's FOMO, their activities are financed through the national budget of those nations. Most of the training activities carried out in Argentina, Cuba, El Salvador, Jamaica, Nicaragua, Trinidad and Tobago, and Uruguay are also financed through the national budgets.

Table 8 shows the sum total of resources used by institutions in 1974, expressed in U.S. dollars. Comparisons in such terms are not strictly valid, owing to the differing costs of inputs of the training process, but the table only aims at sketching a general picture which can be very useful to compare with resources going to the vocational and technical schools of the region.

Table 10 provides data on the sources of revenue of seventeen institutions from sixteen Latin American countries from 1970 to 1974. The different sources of revenue can be grouped

Table 9: Latin America: Public Expenditure in Education 1960 and 1969 (in millions of US dollars)

Country	1960 Expend.	% of public budget	% of GNP*	1969 Expend.	% of public budget	% of GNP*
Argentina	230.6	13.3[3]	2.4	463.4	15.4[3,4]	2.4
Barbados	2.4	17.9	-	7.0[2]	21.3	6.4
Bolivia	5.6	19.4[3]	2.0	28.0	26.2[3]	4.0
Brazil	274.4	10.5[3]	2.9	1.056.2	12.0[3]	4.2
Colombia	67.3	10.7[3]	2.2	161.4	19.7[3]	3.6
Costa Rica	20.8[1]	29.6	4.3	54.3	35.0	6.7
Chile	170.7[1]	14.8	4.4	282.6	10.6	5.3
Ecuador	24.3	12.8	3.9	65.5	25.0	5.0
El Salvador	12.2	18.9	2.7	25.8	22.4	3.7
Guatemala	13.1[5]	11.9	1.6	31.9	17.5	2.3
Guayana	4.8[1]	12.4	3.1	11.8	13.1	4.8
Haiti	4.4[1]	14.4	1.9	6.4		1.4
Honduras	8.0	16.6	2.2	21.0	19.5	3.4
Jamaica	14.3	17.3	-	49.0	18.5	4.4
Mexico	200.2[1]	21.3	1.9	788.6	21.7	2.9
Nicaragua	5.6[1]	15.6	1.5	18.4	22.6	2.9
Panama	14.4[1]	21.2	4.1	45.0	34.6	5.7
Paraguay	4.1[1]	15.1	1.4	11.6	14.7	2.6
Peru	54.7[1]	17.6	3.1	207.5	23.4	4.7
Dominican Republic	9.4[1]	7.3	1.5	37.7	16.0	3.3
Trinidad & Tobago	13.6	14.4	3.0	27.6	15.7	3.6
Uruguay	37.5[1]	8.4[3]	3.8	74.0	24.1[3]	4.7
Venezuela	262.4	22.3[3]	4.3	431.5	20.9[3]	5.6
Total	1.454.8	15.0	2.8	3.897.1	16.9	3.7

Source: UNESCO, Evolucion Reciente de la Educacion en America Latina, Vol. II (Mexico: Ed. SepSetentas 1976) 93, 100.

1 1961.

2 1968.

3 Only central or federal expenditure.

4 This percentage would be lower if the expenditures of provincial and municipal governments were considered within the total public expenditure budget.

5 Estimated figure.

* This is the per cent of total expenditure in education over the GNP.

into three major categories: public sector, private sector, and external sector. Under public sector I include the revenue from national, provincial, and municipal budgets. Apart from the contribution made by individual enterprises, the private sector includes revenues from workers or pupils and donations. The external sector includes revenue from bilateral and multilateral international co-operation.

Except in the cases of Brazil's and Peru's vocational training institutions, it seems that the public sector usually finances an important share of most Latin American training. The proportion varies from about 0% in Costa Rica to 100% in Panama. The difference is generally obtained from the private sector. According to available data, only one institution is 100% financed by commercial and industrial enterprises, the Brazil's National Service for Industrial Apprenticeship (SENAI).

The analysis in Table 10 of the sources of revenue of vocational training institutions makes it clear that the contribution of the external sector to the total budget is rather limited. Although some institutions have received important contributions for physical plants and equipment through bilateral international co-operation, their current expenditures are usually financed with national resources.

There are basically two devices for channelling funds to finance vocational training programs in Latin America. The first consists of special taxes established to fund these programs, such as Panama's IFARHU, Costa Rica's INA, Venezuela's INCE, Ecuador's SECAP, Colombia's SENA, and Brazil's SENAI (see Chapter 2 for details). The second is direct state funding, provided by including the cost of vocational training programs in the national budget. This is the case of Argentina's CONET, Chile's INACAP, Uruguay's UTU, and other institutions.

Both kinds of financial arrangements have advantages and disadvantages that should be pointed out. The financing of vocational training programs through special taxes may create rigidity in the process of planning overall economic and social development. Financial autonomy reduces the pressure on these

Table 10: Sources of Income of Latin American Training Institutions (1970-4)

Institution	Year	From public sector	From private sector	From external sector	Other
CONET	1970	66.69 %	26.92 %	6.39 %	-
(Argentina)	1971	75.66 %	21.87 %	2.48 %	-
	1972	77.91 %	19.81 %	2.14 %	0.13%
	1973	82.94 %	13.64 %	3.42 %	-
	1974	85.16 %	12.09 %	2.75 %	-
FOMO	1972	39.68 %	2.14 %	58.19 %	-
(Bolivia)	1973	39.68 %	2.14 %	58.19 %	-
	1974	91.30 %	1.94 %	-	6.76%
SENAC	1970	-	100.00 %	-	-
(Brazil)	1972	-	98.58 %	-	1.42%
	1974	-	99.85 %	-	0.15%
SENAI	1974	-	100.00 %	-	-
SENA	1970	0.26 %	93.34 %	-	6.41%
(Colombia)	1971	0.44 %	99.56 %	-	-
	1972	0.19 %	98.91 %	-	0.90%
	1973	0.63 %	84.49 %	-	14.88%
	1974	1.06 %	98.94 %	-	-
INA	1970	92.80 %	-	-	7.20%
(Costa Rica)	1971	94.01 %	-	-	5.99%
	1972	99.61 %	-	-	0.39%
	1973	92.36 %	7.64 %	-	-
	1974	89.91 %	2.84 %	0.57 %	6.68%
INACAP	1970	92.80 %	-	-	7.20%
(Chile)	1971	94.01 %	-	-	5.99%
	1972	99.61 %	-	-	0.39%
	1973	92.36 %	7.64 %	-	-
	1974	89.91 %	2.84 %	0.57 %	6.68%
SECAP	1971	92.60 %	4.37 %	3.03 %	-
(Ecuador)	1972	27.74 %	71.01 %	-	1.25%
	1973	6.15 %	57.83 %	0.92 %	35.10%
	1974	11.54 %	47.34 %	-	41.12%
INTECAP	1972	59.84 %	40.16 %	-	-
(Guatemala)	1973	28.92 %	63.60 %	7.48 %	-
	1974	23.22 %	59.47 %	17.31 %	-
INFOP (Honduras)	1974	10.60 %	88.84 %	-	0.56%
ARMO	1970	76.43 %	-	23.57 %	-
(Mexico)	1971	91.95 %	-	3.84 %	4.21%
	1973	90.57 %	2.06 %	-	7.37%
	1974	88.04 %	5.58 %	-	6.38%
INA (Nicaragua)	1974	94.20 %	-	5.80 %	-
IFARHU (Panama)	1971	100.00 %	-	-	-
SNPP	1973	-	100.00 %	-	-
(Paraguay)	1974	-	100.00 %	-	-
SENATI	1970	-	86.44 %	13.56 %	-
(Peru)	1971	-	84.36 %	13.87 %	1.77%
	1972	-	89.19 %	8.19 %	2.62%
	1973	-	87.06 %	9.77 %	3.17%
	1974	-	100.00 %	-	-
UTU	1972	96.70 %	-	1.44 %	1.86%
(Uruguay)	1973	89.95 %	-	-	10.05%
	1974	98.48 %	-	-	1.52%
INCE	1970	14.43 %	80.30 %	-	5.27%
(Venezuela)	1971	10.47 %	89.53 %	-	-
	1972	14.84 %	81.71 %	-	3.45%
	1973	14.44 %	81.54 %	-	4.02%
	1974	13.79 %	82.10 %	-	4.11%

Source: Prepared by the author on the basis of data published by CINTERFOR. CINTERFOR, Cuadro Comparativo y Fichas Descriptivas de las Instituciones de Formación Profesional en America Latina (Montevideo, Uruguay 1971-5).

institutions to align their priorities with those of national development plans. On the other hand, it is probably easier for institutions to adapt training to the local needs of the labour market when they enjoy a greater degree of financial autonomy.

When the state funds training systems directly through its national budget, it can assign specific responsibilities to the vocational training institutions, thus facilitating the implementation of national development plans; however, this procedure may entail a complicated process of negotiations between financial and educational authorities. For instance, in the absence of a plan which clearly specifies a required level of training, the actual resources committed to training may depend on the institutions' skill in negotiating or upon the goodwill of authorities of the Department of Finance concerned.

The External Financing of Education

The number and amount of international loans that Latin America has received during the last decade for educational purposes is significant. The InterAmerican Development Bank and the World Bank alone granted $428,174 for education to different Latin American countries between 1964 and 1973.[4] If one considers loans from bilateral assistance for education (particularly those granted by the United States) a figure close to one billion dollars will be reached for education during the last decade.

However, as has been pointed out by OECD experts,[5] this practice involves several financial risks. To begin with, from a public finance standpoint, the expenditure of a loan means the possibility that the public sector will increase the demand for goods and services in the economy, and may generate inflationary pressure if the economy is already working at its fullest. Secondly, the influx of currency may lead to monetary inflation if an appropriate monetary policy is not adopted. The loan is normally received in dollars or other relatively hard currency. The central or national bank converts it to national currency according to existing legal provisions. The bank's expansion of

the total amount of national currency may produce inflationary pressures to which the economy cannot adapt.

Thirdly, the granting of special loans for education is sometimes conditional upon the acquisition of educational hardware which is produced only by the industrialized countries. Furthermore, the acquisition of specific equipment may lead to a dependency upon replacement parts or compatible products. Finally, the introduction of new equipment may require resources from the national budget. Thus, the Economic Commission for Latin America has calculated that the utilization of foreign loans usually requires the application of at least an equal amount of national resources.[6]

Finally, and probably most important, is the problem of amortization and service of the debt. The national government should be absolutely sure that the investment in education will generate at least the return necessary to pay for the amortization and interest of the loan. But since the government obtains these newly generated resources only through taxation, it is possible that eventual tax income will be less than the amount required to repay the debt. For example, let us suppose that an investment does generate an additional national income of 20 million dollars per year. If the marginal rate of income tax is 15% or 20%, the government will have an additional income of only 3 or 4 million dollars per year. Therefore, at least thirty years will be required for total repayment of the loan of about 100 million dollars.

Financing Patterns of Education and Development Problems

At this point it seems useful to make a few general observations concerning the financing of education in underdeveloped areas. The financing of education in any country involves decisions concerning the allocation of scarce resources. Given the general underdevelopment in Latin America, these decisions become even more acute.

First, it is difficult to reconcile the imperative need to

extend effective educational services to new sectors of the population with the overall paucity of investment resources available. Education must be evaluated in the light of other objectives which compete for the allocation of limited resources. The characteristic inadequacy of public sector budgets for education and human resources training is simply one more manifestation of the chronic lack of funds in underdeveloped countries, and is, therefore, part of a comprehensive structural situation created by low levels of production and income.

In order to accelerate the rate of development, and even to maintain existing trends, Latin American countries need to expand and maintain a costly structure of education and vocational training. This implies increased financial investment.

Secondly, it is doubtful whether enough funds can be allocated to fulfil aspirations in regard to the expansion of educational services, unless at the same time a major effort is made to improve the productivity of the educational system.

Thirdly, because educational services are often inadequately adapted to development and the requirements of the countries concerned, costs are unnecessarily high and results only marginally productive.

Finally, to the above-mentioned factors affecting "performance" in the broadest sense must be added low levels of organizational efficiency, which are reflected in the inefficient utilization of the human, financial, and technical resources.

There is also a series of more specific considerations of the problem of financing education, especially vocational education, that must be considered. The first thing to note is that the cost of this education falls less and less upon those who receive it; not only are apprentices not required to make any financial contribution, but the apprenticeship laws almost everywhere oblige employers to pay wages or an allowance. Similarly, many trade schools and courses offer free tuition; enrolment fees are nominal in those covered by the present study, and do not make an important contribution to the budgets of vocational training institutions. In addition, subsistence grants

are paid to some youth enroled in training institutions as apprentices (this is the case of Peru's SENATI, for instance), and wage compensation is given to adults in retraining or upgrading courses.

In many countries, the only private schools still run for profit are those offering clerical and secretarial training; these schools are mainly attended by young girls. Many of these schools receive government grants and therefore can keep registration fees reasonably low.

Depending on circumstances in different countries, the cost of vocational training is shared between private or semi-public bodies and local authorities or the national government. Thus, while the cost of education offered by vocational schools is borne by the national or provincial government, the cost of vocational training is often shared with employers and workers through special taxes on wages and other financial devices.

Table 11 shows the sources of financing of vocational training institutions, whether by various levels of government (public sector) or employers' associations or workers (private sector). A shifting of a larger part of the burden of vocational training costs to the private sector can be noted in most Latin American countries.

In all Latin American countries, the greater part of the resources directly allocated to education comes from general public revenues. To the extent that education is perceived as a tool for income redistribution and human resource development, it will become increasingly dependent on public revenue. In countries where education now accounts for 20% or more of public expenditures and 4% or more of the GNP (see Table 9), a significant improvement in financial support will depend upon a combination of the following trends: (a) an increase in the product per capita; (b) an increase in the share of the GNP captured by the public sector; (c) a reduction in the share of public expenditure devoted to armaments and other "non-developmental" purposes. The achievement of any one of all three trends presents enormous difficulties in the Latin American context.

Table 11: Sources of Income of Vocational Training Institutions in Latin America by Economic Sector (1970-4)

Institution (Country)	Year	Public sector %	Private sector %	Secondary %	Tertiary %
IFARHU (Panama)	1971	100.00	0.00		
INA (Nicaragua)	1974	94.20	0.00		
FOMO (Bolivia)	1974	91.30	1.94		
INACAP (Chile)	1973	92.36	3.82		
ARMO (Mexico)	1974	88.04	4.43		
INTECAP	1972	59.84	40.16	20.68	19.48
(Guatemala)	1973	28.92	63.60	25.02	38.58
	1974	23.22	59.47	25.02	34.55
SECAP	1971	92.60	7.40	4.37	3.03
(Ecuador)	1972	27.74	71.01	32.82	38.19
	1973	41.25	57.84	34.60	23.24
	1974	52.66	47.34	30.71	16.63
INFOP (Honduras)	1974	10.60	88.84	-	-
INCE	1970	14.43	88.11	51.47	36.64
(Venezuela)	1971	10.41	89.53	89.53	-
SENA	1970	0.26	93.31	42.10	39.20
(Colombia)	1972	0.19	98.56	46.36	39.56
	1973	0.63	87.85	40.34	47.51
	1974	1.06	98.94	40.04	48.47
INA	1970	3.00	97.00	46.00	51.00
(Costa Rica)	1971	3.04	97.00	46.00	51.00
SENATI	1970	-	98.29	84.47	13.82
(Peru)	1971	-	98.75	84.38	14.37
	1972	-	100.00	91.81	8.19
	1973	-	100.00	90.23	9.77
	1974	-	100.00	100.00	-
SENAI (Brazil)	1974	-	100.00	100.00	-
SENAC (Brazil)	1974	-	100.00	-	100.00

Source: Table prepared by the author on the basis of data published by CINTERFOR, Cuadro Comparativo y Fichas Descriptivas de las Instituciones de Formacion Profesional en America Latina (Montevideo, Uruguay, 1971-5) 70-4.

Note: Percentages may be incomplete because minor sources were ignored.

Shortages and Surpluses of Manpower in Latin America

The concepts of "shortage" and "surplus" of manpower represent special characteristics in the Latin American context when compared with their usage in developed countries. In Latin America there may be shortages and surpluses at the same time, depending on the terms of reference used. This contradiction makes it difficult to apply policies there which were originally conceived for developed countries.

There are several reasons why it is difficult to implement manpower training policies from developed countries in Latin America. First of all, among the greatest difficulties encountered in planning the preparation of human resources are those relating to the appraisal of current and potential demands of the economic system, and the translation of those demands into educational needs.

With regard to the first question, there exists a distinction which must always be borne in mind: it is one thing to estimate future employment needs on the basis of an explicitly or implicitly accepted model of development, and quite another to determine actual employment demand in a given economic system for the present and for the immediate future.

Also, there is the phenomenon of shortage and surplus points with respect to the relative independence of the educational systems in Latin America vis-à-vis actual demand for skills, an independence which has relatively narrow limits. In fact, there is little possibility of any change in the distribution of training by occupations, social strata, and levels within the educational system unless a real change in employment opportunities is accompanied by an appropriate change in the system of rewards, such as better salaries, promotions, upgrading, job security, and better working conditions.

The second question, the translation of potential demand for labour into educational programs, raises difficulties which are not insuperable but which should be mentioned in this context. Leaving aside the purely methodological aspects, which are not

relevant to this discussion, it would seem that this translation is less complicated in developed countries than in underdeveloped ones. There seems to be a closer relationship between education and employment in the developed countries because a more practical view is taken of the educational system and because there is a greater correlation between education and employment levels. In fact, in some Latin American countries it is possible to find university-trained managers unemployed, while the average level of education of actual managers corresponds to the general basic education.

A third reason why it is difficult to take the developed countries as a model in planning resources in Latin America is that whereas in the developed countries the projection of education and employment trends calls for only minor adjustments, Latin American countries - although they can make the same type of projections - need to alter the trends themselves radically.

Fourthly, suitable training for occupational roles can be obtained in various ways, through different combinations of training within and without the formal system of education, with the result that each Latin American country would seem to be in a position to choose between different alternatives in order to achieve the same or similar results. But present educational stock and comparative cost are the two factors that may most affect the choice.

Finally, some shortages in specific categories of skilled manpower are to be expected in any country, inasmuch as the reverse would imply the existence of reserves which, in turn, would mean the underutilization of trained human resources. In the industrialized countries, structural adjustments deriving from continuous technological and institutional changes produce occupational friction and the need for constant adjustment at all levels of professional and vocational training. However, such adjustments are facilitated in those countries by the existence of appropriate machinery for anticipating skilled manpower needs, by the scope and efficiency of the educational facilities provided inside and outside the formal system of education, and, above all,

by the population's educational background. This situation is very different in the underdeveloped countries, where the shortage of skilled manpower is more widespread and there are not the same means for overcoming it promptly.

Furthermore, in the underdeveloped countries professional degrees and employment categories are usually ambiguously defined and far from standardized. This leads to misinterpretation and limits the possibility of determining the real extent of the shortage in certain categories of personnel. It is also much more difficult to gauge the effects of the shortages of skilled manpower on existing economic activities of these countries. For instance, low productivity levels in certain activities can be measured in quantitative terms, but not the inefficiency or poor quality of other economic activities such as the so-called "non-formal" services sector, which occupy the bulk of people employed in the tertiary sector of the economies of Latin American countries.

Factors to be considered in the Implementation of a Vocational Education Policy

Vocational education, for youth and adults, as envisaged in this study, can be organized only as part of an overall policy embracing education, placement services, employment, occupational patterns, and even social and cultural trends. Implementing such a policy involves important decisions in at least two respects: the assigning of responsibilities and the sharing of costs.

The first question is who will be responsible for the provision of educational and placement services in a particular society? Traditionally, a distinction has been made between public and private education, but to implement a policy we must be more specific. Within the public sector, we must distinguish the level at which the operative agencies will be placed, that is, federal, provincial, municipal, or other. Decisions concerning the responsibilities of the private sector probably are more difficult to specify. Schools may be run by private enterprises,

parents, churches, workers' associations, political parties, or other private entities.

Secondly, decisions must be taken concerning the financial responsibility of different groups with respect to education. The basic question is to decide from which sectors of the community revenues are to be raised. Again there is a large variety of possibilities within the public and private sectors. These can be exploited through the general revenues of national budgets, by the application of special taxes to benefit education, or by charging the costs of education totally or partially to its users or other groups also benefiting, such as employers.

The variety of methods for providing and financing education in various countries indicates that no definitive statement can be made about such methods, but that unique historical and political factors in each country have given rise to present patterns. Nevertheless, it is possible to study some of the major features of situations in which one subsector within the public or private sector enjoys a situation of monopoly or quasi-monopoly in the provision and/or financing of education. Some of these features have been presented in this chapter, unfortunately an in-depth discussion of this topic is beyond the scope of this study.

On the other hand, variations in local and sectoral (mainly economic) ability to provide substantially equivalent educational services have long been recognized as a justification for spreading the burden of taxation for education more equitably. This recognition of responsibility is evident, for instance, in the establishment of large area taxing units and a wide pooling of maintenance costs in some countries. These mark attempts to equalize, to some degree, the burden of support for what is conceived to be the common good. When this criteria of "equalization" is applied to vocational training in Latin America, equalization also means redistribution of the financing and provision of training among the various sectors of the national economy. As noted in Table 11, the contribution of the primary sector, mainly agriculture, to the budget of vocational training institutions in Latin America is minimal. Hence, this sector is

receiving a higher proportion of training hours than it is paying for. This policy, therefore, corresponds to the goal of increasing the overall productivity of agriculture, and other underdeveloped industrial sectors, in order to promote global national development.

At the present time, the division of responsibilities with respect to the provision and financing of vocational education and training is based almost everywhere on the legal status of the people who are being educated. Therefore, the responsibility for non-wage earners lies with the education authorities even if the courses are essentially practical, while on the other hand, the responsibility for wage earners normally lies with employers and in some cases with their trade associations or workers, even if the education is partly academic. Thus, apprentices are deemed to be wage earners whatever the nature and amount of their remuneration, even if in extreme cases it is purely a token.

The result of this distinction is that two government departments are generally required to act, the ministry responsible for education and the one responsible for labour and employment. A special difficulty arises in countries with a federal constitution where education is generally the responsibility of the states or provinces of the federation. In these countries, educational systems may vary appreciably from one part of the territory to another, while questions of development, and, therefore, of employment have to be dealt with on a national basis and are studied at the federal level by the departments responsible for economics and labour.

The departments responsible for employment for a long time confined themselves to labour regulation and workers' "protection." These departments have recently widened their outlook; in almost every Latin American country they are now responsible for the equilibrium of the labour market. Their responsibility with regard to vocational education is limited by the education authorities. Thus, even if it is theoretically difficult to distinguish between vocational education and vocational training, this distinction is often made in order to facilitate a division

of responsibility between various authorities. In the Latin American context, it has often been argued that the satisfaction of manpower needs does not seem to be the main preoccupation of those responsible for vocational and general education. Hence, the responsibility for manpower training should be assigned to the ministries of labour, economics, or industry, or even to the employers themselves. This method may not, however, apply everywhere because there are countries such as Argentina and Uruguay where the image of the ministries of education in terms of their effectiveness in providing skilled manpower to the labour market is good enough to preclude the takeover of manpower training from the education authorities.

Whatever the particular context conditioning these kinds of decisions, what is clear is that the efforts of vocational authorities must be guided by a set of forecasts. Here, the first element is to define the job requirements and levels of skill for each branch of activity, and sufficiently far in advance to enable adjustment of the education process. This presupposes an adequate knowledge of the present patterns of employment and an assessment of probable trends. Job requirements thus determined must then be translated into educational programs, which means defining the correspondence between skill and education and estimating the output of existing or planned education facilities. Hence, closer institutional co-operation is essential among public authorities, educational authorities, and industry.

The operational agencies which implement the vocational education policy may vary at different stages in the educational process. Pre-vocational education during compulsory schooling is normally the responsibility of the general schools. Since the school-leaving age is being raised, even they are becoming establishments preparing young people for working life.

Basic vocational training is given either outside or within firms, depending on the country and the occupation. With the expansion of education, apprenticeship "on the job" before starting working life will probably gradually disappear, except perhaps in a very small number of traditional handicraft jobs.

Indentured apprentices will probably be trained in centres separate from the production unit which are run by one or a group of commercial or industrial enterprises, or the state.

As shown at the end of Chapter 2, the number of participants in manpower training programs in Latin America has reached about the same number as that of pupils enroled in vocational schools. But the target clientele they are supposed to serve is quite different. The former is primarily concerned with wage earners and unemployed people. The total number of students enroled in vocational schools is probably about 2.6 million; about 280,000 complete their studies annually. According to estimates prepared by the United Nations Economic Commission for Latin America,[7] about 250,000 workers were being trained at vocational training institutions by 1966. These figures suggest that the enrolment in vocational schools doubled in ten years, while the number of participants in training institutions multiplied by ten.

Major Conclusions About the Development of Educational Systems in Latin America

In the early 1960s, diagnoses of education in Latin America commonly emphasized that the output of specialized skills needed for development was inadequate and that excessive numbers of people were holding posts for which they were supposedly unqualified.[8] It followed that rapid expansion of professional and technical education was called for in order to increase the levels of productivity of the economic system. Undoubtedly, shortages are still present in many special fields, particularly those for which the international market is so strong that the "brain drain" nullifies the contribution of the educational systems, but for the most part a different diagnosis now seems appropriate. Educational expansion at the middle and higher levels has been linked with the upward mobility of the middle class and with the eventual opportunities for social ascent offered by some professions and by general education as opposed to vocational or technical education. Educational requirements

for the better paid and more prestigious jobs have been raised continually as a means of restricting entry irrespective of the relevance of the qualifications required for the functions performed. Almost everywhere, expansion at the middle level has been aimed at preparation for university entry rather than at technical/vocational specialization. In at least a few countries, overall output at the middle and higher educational levels already markedly exceeds absorptive capacity in the appropriate occupations, and present trends in enrolment suggest that this situation is bound to spread within the region.[9]

The consequences of the present patterns of educational expansion include claims on the public resources allocated to education that can hardly be reconciled with the need, indicated above, to upgrade primary education. In fact, the increase of enrolments and the distribution of the budget for education among the three major levels of education is contrary to rationally determined needs. Although Chile may be an extreme case in Latin America, Table 12 shows the evolution of these two factors there during recent years.

Table 12: Chile: Increase of Enrolment and Distribution of the Budget of the Ministry of Education by Level of Education (1965-72; in per cent)

	1965		1970		1972	
	Enrolment	Budget	Enrolment	Budget	Enrolment	Budget
Primary education	79.75	40.10	84.27	39.70	80.87	32.80
Secondary education	17.97	20.30	12.48	20.20	14.58	17.30
Higher education	2.28	26.60	3.24	28.10	4.55	37.10
Others*		13.00		12.00		12.80

Source: UNESCO, Statistical Yearbook, and Universidad de Chile, Oficina de Planificacion, Antecedentes e Informaciones, No. 4, Santiago (August 1973).

* This item, in practice, is also largely devoted to higher education.

Comparatively, the quality of primary education is likely to be deteriorating if the school population at this level is receiving a smaller proportion of the educational budget each year. Since higher education enrolment varied from two % to four % of the school population and, in Chile, received almost one-half of the total public budget allocated to education, an imbalance in the distribution of that budget is evident. Since the middle and upper classes benefit primarily from higher education in Chile, the lower class seems to be subsidizing them.

A projection of rising costs and demand for admission to education suggests that the educational crisis will become increasingly serious during the second half of the 1970s, unless different priorities are adopted. Generally speaking, two strategies for educational reform can be envisaged: (1) a systematic equalization of educational opportunities accompanied by de-emphasis on the schools and the formal educational ladder as an instrument of social mobility and differentiation; and (2) a systematic subordination of educational content and output to the requirements of prevailing development.

The last strategy implies limiting the expansion of most lines of higher and secondary education which prepare students for university entrance, greater selectivity in admissions, expansion of technical-vocational education in accordance with demands for specialized manpower, and expansion of terminal primary education for the majority, with content adapted to expected work experience and roles in society. However, such a strategy would encounter powerful resistance, since it clashes with the professed values of the groups whose expectations would be frustrated. These groups in the middle as well as the lower classes are much larger than those which stand to gain. Accordingly, it seems probable that the internally contradictory growth of education will continue for some time in most countries, with successive proposals for reform unable to mobilize coherent support, and with a series of expedient measures relieving the most urgent pressures on resources.

CONCLUSION

This study has focussed upon a particular set of programs associated with non-formal education in Latin America, with particular attention given to the financial patterns of such programs. At least some of these vocational training programs are able to provide instructional services at a quite low cost per student hour. It has not been the intent of this study to compare carefully the costs of non-formal and formal educational programs. However, the study might be seen by some readers to reinforce a frequently-heard claim that non-formal education is a cheaper substitute for formal education in developing human resources for underdeveloped countries. It may be useful, therefore, to close with a few comments on this possible conclusion from these data. The conclusion is questionable for at least three reasons.

First, it is sometimes argued that the formal educational system and its administration are ineffective and incapable of being radically reformed. Thus, it is argued, a substitute system should be developed. There is a high probability, however, that a massive substitute system would be subject to the same political and bureaucratic processes as the formal system and would settle into the same ossification.[1]

Secondly, non-formal education is not generally viewed as a real "substitute" for the formal structure, but as a marginal appendage or supplement or substitute. It is possible that the non-formal alternatives are more effective in providing some services,[2] but it does not necessarily hold true that non-formal education could provide all services effectively. Non-formal

means may be a good way to produce specific skills in a population already functionally literate, but this does not imply that all educational needs are better fulfilled by non-formal education. Formal, traditional education is designed, if for nothing else, to maximize the economies of scale. Curricula are standard, teachers' training is uniform, texts and syllabi are normally used nation-wide, pupils are kept within some ranges of standardization by age-specific requirements and entrance exams at various levels. This can be overdone, but the fact is that the traditional patterns everywhere are partly the result of a search for efficiency, especially in terms of costs per pupil. The existence of poor programs, rigidity, and other problems does not negate the potential gains of size and uniformity. Non-formal education has been characterized by dynamic, flexible, and unique programs stressing innovation and reform. Desirable as these characteristics may be, they tend to be those of relatively small, special-purpose programs building on the bases already established by the traditional system. This does not imply that formal education is efficient or non-formal education inefficient. But it does argue that non-formal education which is a supplement to the formal structure is a different activity from what it would be were it assigned all the tasks of the formal system.

Thirdly, the notion that traditional formal education ought to be substituted for non-formal education embodies a narrow point of view. Its principal defect is to overlook the social returns related to participatory democracy and the necessary role education must play in providing the basis of democracy: The spirit of the nation as a community, the sense of belonging, the notion of commonality of history and of destiny, and the competence necessary to participate in social decisions are perhaps the most valuable products of the schools (however badly they do their jobs). These are impossible to value and measure, but this does not deny their existence nor suggest ignoring them. Truly alternative educational devices, if they are to be substitutes, ought to seek ways of satisfying these values as well as the more easily treated ones usually associated with non-formal educational programs.

NOTES

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10 Ibid.

11 See UNESCO Statistical Yearbook, 1974 (Paris: UNESCO 1976).

12 Quoted by Jaime Abreu, "Craft and Industrial Training in Brazil," in J.A. Lauwerys and D.G. Scanlon, editors, Education within Industry (New York: Evans 1968) 219.

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14 F.H. Cardoso, "Proletariado no Brasil: Situacion e Comportamento Social," in Revista Brasileiro, No. 41 (June 1962).

15 See Abreu, "Craft and Industrial Training in Brazil."

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1 This definition has also been adopted by the OECD. See Roger Gregoire, Vocational Education (Paris: OECD 1967) 11.

2 Ibid. 12.

3 Oscar Tangelson, Empleo y Formacion Profesional en America Latina (Montevideo, Uruguay: CINTERFOR 1974) 70.

4 Training in Latin America, CINTERFOR, 1964-1973 (Montevideo, Uruguay: CINTERFOR 1974).

5 CINTERFOR, Training in Latin America 14.

6 CINTERFOR, Prospective Study on Vocational Training in Latin America (Montevideo, Uruguay: CINTERFOR 1975) 17.

7 See Victor Martin, Accelerated Vocational Training for Adults (Paris: OECD 1965) 13-14.

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3 Ibid. 18.

4 Henry Kirsch, "Employment and Utilization of Human Resources in Latin America," in United Nations Economic Bulletin for Latin America, Vol. XVII, Nos. 2-3 (1973).

5 CINTERFOR, Prospective Study 28.

6 Ibid. 29.

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8 Philip J. Foster, "The Vocational School Fallacy in Development Planning," in C.A. Anderson and Mary J. Bowman, editors, Education and Economic Development (Chicago: Aldine Publishers Co. 1966) 142-65.

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4 See Organization of American States, America en Cifras, Vol. IV (Washington, DC: OAS 1975) 211-43.

5 See Organization for Economic Co-operation and Development, Financing Education for Economic Growth (Paris: OECD 1966).

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7 United Nations, op. cit., 32-5.

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1 See John M. Hunter, "Economic Analysis and Nonformal Education," in Marvin Grandstaff, editor, Economics of Nonformal Education 22

2 See Frederick H. Harbison, "Human Resources and Nonformal Education," in Cole S. Brembeck and Timothy J. Thompson, New Strategies for Educational Development: The Cross Cultural Search for Nonformal Alternatives (Lexington, Mass.: Lexington Books 1973) 5-11.

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